Guide to Lionel's postwar quad hoppers p.62

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O and S gauge for the operator and collector

O gauge Premier New Alco RS-11 by MTH reviewed p.14

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- 2 track plans deliver maximum train action p.42
- PLUS: Design a complete scene p.48

Rare American Flyer trains from 1958 p.54

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Classic Cargo Karen Peakes 50 years of the Train Pen

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Also in This Issue: Fundamentals about locomotive technology and proper balance; Model railroading in Australia; scoop for plus DCC remodelers; and an in-box review that our editors like; buying a plan for the box model! Check out recommended some buttons by John! Ignu ra! ...a Lower Shore by Todd Gillens and Brad Hodge.

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EDITOR'S DESK

Expanding the fun

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YOUR EDITORIAL STAFF

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DO YOU HAVE A STORY?

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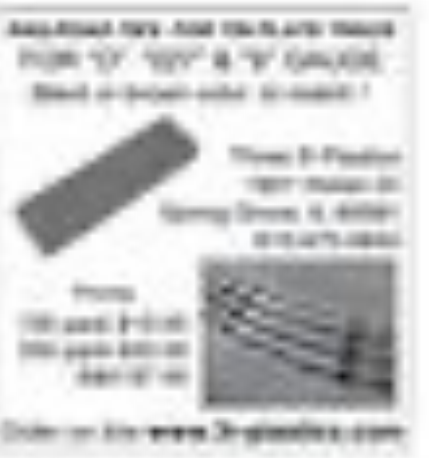
CLASSIC TOY TRAINS



Discover Omaha with LOTS

Train Show & Swap Meet

32nd Annual Convention: July 10-16, 2013

Convention Highlights Include:

- Golden Spike Tower & Visitor Center
- Strategic Air and Space Museum
- Boys Town, USA
- Lunchtime Gamblers - 6-gauge Gems
- Railroad Park - dozens of C&O's, Commercial and Big Boy locos
- UP Railroad Museum
- Get Acquainted Party at Durham Western Heritage Museum
- Annual City Tour photo
- Train on the Town model train layouts in the area

News & Products

A scale Bombardier Multi-Door 10 unit run set Rapido USA announced this modern three-unit intermodal set decorated for Penn Stacktrain Division Corp. reporting marks. The articulated cars come with six individually numbered, magnetically attaching 53-foot containers. Rails also offers separate two-packs of containers painted for North American Container System. The cars have shock absorber-equipped trucks and magnetic knuckle couplers, and sell for $99. Three road numbers are available.

New train models to be shown at iHobby

The 34th annual iHobbyExpo in Rosemont (or Chicago, that is, for those familiar with O'Hare International Center in Rosemont, Ill.)

The first two days of the show are trade days open only to exhibitors, vendors, and others in the hobby trade. The iHobbyExpo will be open to the public on Saturday and Sunday.

Last year, more than 40 model train manufacturers exhibited at the show to preview or reveal railroads, the 8-gun plus accessory manufacturers and scale models

Highlights in this issue

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make-inspired vehicles, collectibles, and more.

Many manufacturers release or announce new products at iHobby each year.

Other highlights of the show will include hundreds model train layouts, a ride on Thomas the Tank Engine, where you'll be invited a video game arena, and "make-and-take areas" where hobbyists can work on models they buy at the show.

As in the past, Model Railroader will be a regular on the most exciting new products announced at the show. MR will present the news to you, provide videos on its Web site, and a detailed report in the June issue. But to be the best informed on Sunday's news

Information about iHobby2008, including a list of exhibitors, maps, and hotels in the area, can be found at www.ihobbyexpo.com.

Hundreds of exhibitors and thousands of attendees will be at iHobby2008 in Rosemont, Ill., this fall. The multi-hobby show, one of the largest in the industry, is traditionally a showplace for new products.

Now on www.ModelRailroader.com

NEW! Write your own product reviews!

You'll notice a new feature in our product reviews section. Subscribers can now submit online reviews for products that haven't been reviewed in the magazine. In addition, you can:

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Watch Cody's Office

Associate editor Cody Grivno shows you more rare prototype and modeling tips.

New from the Information Station

Featured article collection

George Sellos' Franklin & South Manchester

Learn all about the development of this influential model railroad.

New video article

Roadtesting with an airbrush

Get new products in use, a printable project guide and a series of how-to video clips!

Welcome Maria Novotny to MR

National conventions

National Association of S Gaugers 2009 Convention: Lisle, Illinois, Aug. 5-10, 2009. www.nasg2009.com

Local shows not listed online: Click on "Coming Events" in the Trains.com navigation on the right side of our home page.

Show promoters: Enter your event online, or you can send the information to us and we'll be glad to enter it for you.

Watch for our National Train Show report

Model Railroader will file a full report from the 2008 National Train Show on the Web site, www.ModelRailroader.com. The show, slated for July 16 through 19, is being held in conjunction with the National Model Railroad Association's annual convention in Anaheim, Calif. The weekly online News & Products report that July 17 will include previews of new models from items being announced at the show. Afterward, our July 24 report will have all the details. Look for highlights in the News & Products section in the October issue of Model Railroader.

HO scale locomotives

Electro-Motive Division (EMD) and F40 diesel locomotives. Kits given collectors. EMD hood-hopper roof and motor generator locations. Depicts A Santa Fe. Other road orders include southern, three road numbers and Milwaukee Road orange and black freight scheme; one with roman road name; three with gothic road name; EMD two-motor generator Burlington Northern others nonlocos Montana Rail Link (two numbers), Ayer York, Susquehanna, & Western (two numbers) and undecorated (BN versions). Five-pole skew wound motor with dual flywheels, undecorated-specific parts and etched metal details. Digital-sound model (#40-8, with dual-mode digital command control and wheels $249.98. October 2008 Catalog order. Athearn Trains

Alco Century C-628 diesel locomotives. Delivers a Western Lehigh Valley, Penn Central units and no other N lengths and hoods are Pacific. Two road numbers each. Rubber cab seams with three

Louisville & Nashville (L & N) Berkshire steam locomotive. Undecorated. Does depict. Rubber-tired tanks or walkout passenger and two sound-equipped versions body. $2,699. Price subject to change. North 2008. Manufactured in Korea by Sun-Kam, imported by Overland Point

Electro-Motive Division (EMD) and F40 diesel locomotives. Alpine Limited (two numbers) available for $ each. Set for $ each. Canadian National (A and B units four numbers each), Chicago & North Western (A each with two numbers) and CP Rail (A and B two numbers each). Etched metal details with grab irons and trucks

Pacific Electric 900 scale wood boxcar. Alpine Division Scale Models is offering this HO-foot single-sheathed boxcar decorated for the Pacific Electric Ry. The Accurail kit features a brass brake shaft, one-piece body, and magnetic knuckle couplers. A sale for $21.95 plus $4 shipping. California residents add 8.25 percent sales tax.

HO scale freight cars

50-foot flatcar with 40-foot piggyback trailer. Architects, Kansas & Santa Fe, Chicago Great Western, Chicago & North Western, Lehigh Valley, Minneapolis & St. Louis, and Pennsylvania RR. Five numbers each. Metal wheelsets and detailed scale magnetic knuckle couplers. $39.98. September 2008 Kadee Hi-Rail. American Trains

American Car & Foundry 3,000 cubic-foot capacity Center Flow covered hopper. Two road numbers, Oxford, Wenatchee & Iron Range. Chrome features of ACF operating models. Carry Products and kits. Nine paint schemes. Rivets of Micro. Offset-Control truck mechanism. Wheels of Delaware and Simple Couplers. Five road numbers each, plus undecorated. Metal wheelsets and detailed magnetic knuckle couplers. $21.97. Undecorated, $18.97. September 2008. Ready-to-run. Tennessee Line. Atlas Model Railroad Co.

Assorted N scale freight cars. Micro Trains Line Co.'s latest N scale freight cars include a Chesapeake & Ohio 50-foot boxcar, $24.95; Northern Pacific 40-foot drop-bottom gondola with load, $18.95; Central Vermont 34-foot two-bay hopper with coal load, $19.95; Missouri Pacific 50-foot flatcar, $14.95; and Canadian National scale test car, $14.95. The ready-to-run models have Magne-Matic magnetic knuckle couplers.

Assorted freight car kits. Several new flat hopper, Missouri-Kansas-Texas, Weyerhaeuser, Kansas City Southern, Burlington Northern, and St. Louis Southwestern 4-bay, 8,250 cubic-foot hopper. Fishbelly, McKeesport & Youghiogheny coach stock, arched roof Pennsylvania Utility boxcars, several cars in 40-foot gondola, Susquehanna Coal Co. 70-ton coal hopper cars, Magnetic knuckle couplers. $13.95. Bowser

40-foot flatcar. Two road numbers, derrick, frames & fixtures for Burlington Northern, Great Northern, Kansas City Southern, and Soo Line cars. Also available: coal hauler. Trees and numbers extra. Cast-on wood deck, metal stakeholders and brake wheels, brake handle, couplers. $24.95. Model-cast, Inc./Miniature Railroad Co.

St. Louis-San Francisco 10'6"DF corrugated steel/wood double-door auto boxcar kits. 40-foot 10'6"DF steel/wood 7'1" door, 12'0" steel doors with post-to-post plate, 12'0" wood doors and 8'0" sub-doors. 7'1" door steel Youngstown doors and 14'0" steel Youngstown doors with wood nailing. Cast-on/brass commodities, prototype decals, and prototype data sheet. Trucks and couplers not included. $14 each plus $4 shipping for up to five cars. Accurate Models

Wabash-style Class E-17 steel caboose kits. Fishbellied sides, Wabash and Santa Fe cupola, arched roof details, and factory-cut window glazing. Coupled and uncoupled. $49.97 without decals, $52.95 with custom Wabash decals. Wright Trak Railroad Models

HO scale passenger cars

Steam generator car. Amtrak Phase IV Heritage, Angelus & Santa Fe, Canadian National, CP/A colonist or "on socially" type, Chesapeake & Ohio, Great Northern Williamson Angel, MP/T Texas Flyer, Wabash, Missouri Pacific, New York Central, Northern Pacific, Pennsylvania Crown-Roofer, V/A, B&O, P/A Bird's-eyeball, Railroad, and undecorated. Lighting and working "steam generator" smoke unit required to be installed. Assembly used. Detailed underbody, etched metal platforms, and factory-applied wire grab irons. $49.95. Rail 1000. Brass-to-Iron Steam Generator Line, Rapido Trains

Milwaukee Road Twin Cities Hiawatha 40-seat diner and 28-seat Top Lounge. Also available: 56-seat diner and 24-seat coach. Metal underbody with factory-installed electrical pickup, window, applied wire grab irons, and magnetic knuckle couplers. With 5 Watt/Amp Inc.

HO scale structures

Depot-hotel-Wisconsin structure set. Contains one set of white cast Wisconsin depot, hotel, and platform

Digital controller consoles. Two new signal controller consoles are being offered by TOP & Associates. The Passmaster, left, optically detects rolling stock and turns on grade crossing flashers until the train has passed. It sells for $60.95. The AB20Master is an expandable four-block signal controller that works with almost any kind of signal. It sells for $130.95. Both come with optional sensors, but infrared sensors are also available.

...multimeter and circuit tool. The Pro Tester Range shows good resistance, has Multimeter accuracy classify, and a variety of features for trouble-shooting. $19.95 plus $15 shipping. Dimension Gear.

Railroad TWO-8 Switchmaster. Polarizer switch machine has fourth throw, selectable throw bar, and brass construction. Low-bit throw is $6.95/turnout pair.

HO scale details and accessories

Assorted HO scale vehicles. Black & White and White Interior pre-roller Jackson, Sparky & Sons Ice Company Pacific Western Decals, Pennsylvania and Brothers, $20.95. August 2000 1950 Ford F-100 pickup truck Champion Packing Co. Liberty Ford Motorcar Leasing Co. Crane Supply Traffic Circle Packers, and Valley Growers, $19.95. September 1958 Buicks are ready. Prices a review General Racing Motor Inc. at Wisconsin Chicago Inc. Bob's Racing and Nationwide Towing, $19.95. September 1958 Detailed ...assortment with amazing wheel, full engine placing, and rolling road ones. Athearn Trains.

Modern-hooded signal heads. Electrical signal light emitting diode (LED) signal heads match those on manufacturer's modern searchlight signal bridge signals, are included in kit or two. $19.95. By Bill Brooks.

International TD-20 crawler with side boom. Kit is pre-cast side boom with many cables, positionable details, and free-rolling tracks. $49.95. Pure Rose Inc.

N scale locomotives

Electro-Motive Division GP10 n diesel locomotive. Features 4-bit Mabuchi motor, and 3-axle trucks (two road numbers each), plus undecorated. Five sets due to varied issues with dual flywheels, Hayes used metal wheels, and aluminum magnetic handrails complete. $29.95 unlettered. Both kits in October 2000. Ready to run. Trainmaster Line Sales. Model Railroad Co.

N scale freight cars

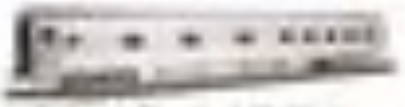
United States Railroad Administration 40-foot steel reefer. Canadian National, Toronto, Indiana & Kokomo, Kansas Northern, Louisville & Nashville, Missouri Pacific, Pittsburgh & Lake Erie, and Reading Railroad & Pacific. Two numbers per road name, plus undecorated. Four sets due to varied issues with dual flywheels, Hayes used metal wheels, and aluminum magnetic handrails complete. $40 kit, and $16.95 unlettered. $19.95 September 2000. Ready to run. Atlas Model Railroad Co.

Assorted hopper cars. Louisville & Nashville 70-ton four-bay hopper and Pennsylvania 55-ton two-bay hopper with circle herring. Three road numbers each. Way cars, bay-to complete. $19.95. Ready to run. Kadee.

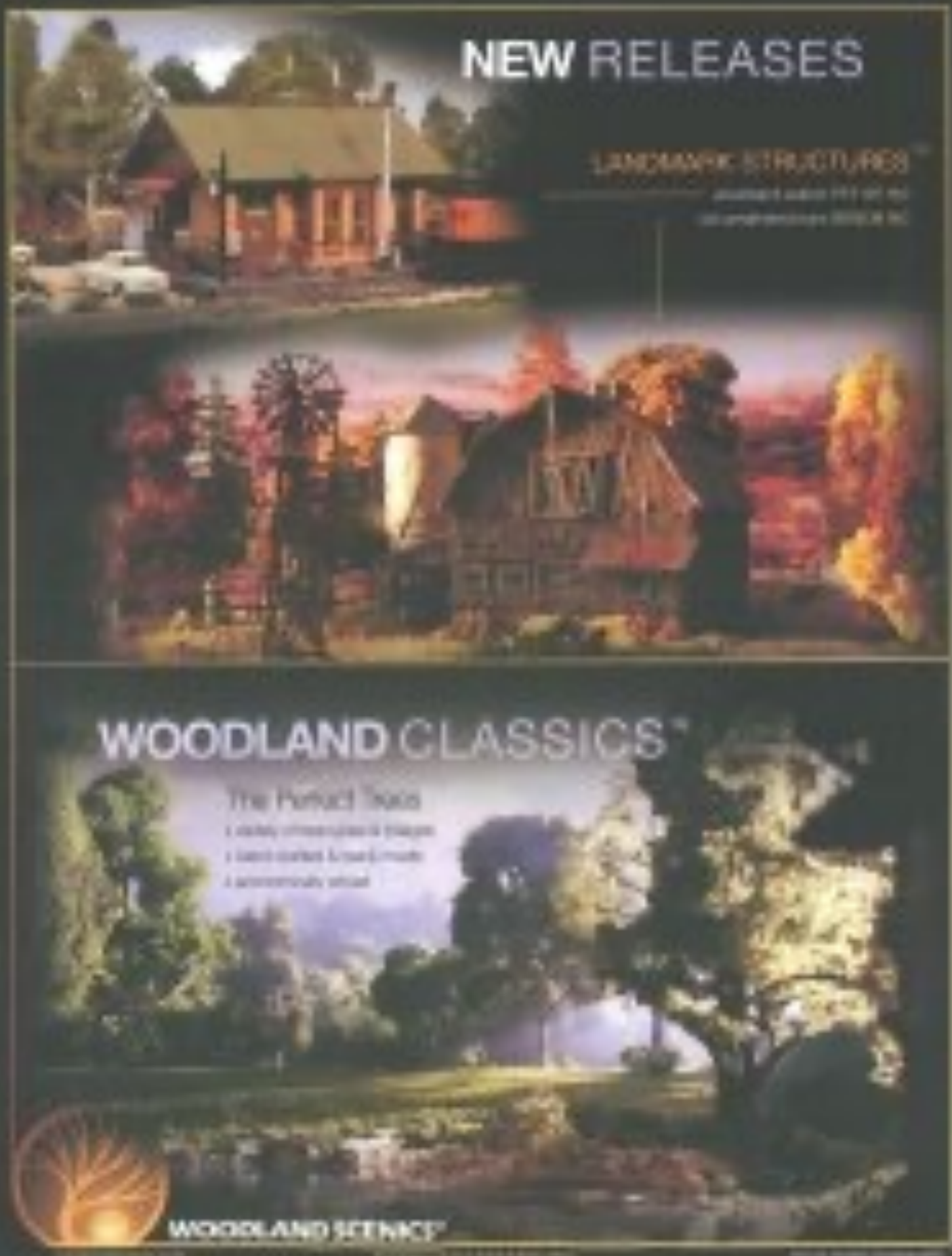
Trackflex intermodal trailers. Third generation "micro" type. Available in five each with 3 models. Made out large chassis each part, and weight are not a result of 14 road numbers available. Price to be announced. October 2000. Ready to run. Red star Enterprises.

Three-dome tank car. Shell Chemical Co. Two road numbers available. Fine scale tooling, wire handrails, and separate brake cylinder. $22.95. Ready to run. Bachmann Industries.

N scale passenger cars



Pullman-Standard 10-4 light weight sleeper. Amtrak (Phase 1), Atchison, Topeka & Santa Fe, Alabama Great Lines Limited, Richmond Chesapeake & Ohio, Chicago & North Western, Denver & Rio Grande Western (two) sleeper, Detroit, Toledo & Ironton, Kansas City Southern, Kansas Pacific, Louisville & Nashville, New York Central, Northern Pacific, Pennsylvania $6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N scale cardboard shopping boxes. **These cut-and-glue kiosks printed on tan cardstock are being offered free by Atlas Manufacturing. To receive three cards printed with patterns for five stores, send a self-addressed, stamped no. 10 envelope to Atlas.**

more scheme available. Black diesel loaders by Bachmann, Peco, and others. Clean, flexible, and environment friendly or Excel colors, depending on road name. Detailed locomotive, metal wheelsets with bronze-bearing electrical pickups, and two-motor chassis. Only kit complete. $16.98 (was $19.95). Available in red, blue, & Northern Pac.

N scale structures

Trestle bridge. Assembled for approximately 70 track feet and 5/8 inch, for new layouts.

Tony's Pizzeria. Fully assembled and decorated structure. 3 x 4 inch footprint. Price to be announced. October 1998. Pola via Viessmann.

N scale details and accessories

Black N tractor with 40-foot enclosed goat trailer. Farm Express, Incorporated. Redbeard, decals/name, and Dickinson. Kit includes glazing, enclosed cab, tooling, no motor. $39.98. September 1998. Atlantic Trains.

Etched-brass sides for Pullman-Standard smooth-side passenger cars. Car sides are designed to convert Kato or Atlas bodies to Pullman-Standard-style 77'6" smooth-side steel coach or baggage car, operated by Amtrak, Baltimore & Ohio, Conrail or Georgia. Illinois Central, Missouri Pacific, Norfolk & Western, and Wabash. $19.95 plus $4.95 shipping for small sides. Brass Car Sides.

Nissan mast combination signal. Nissan mast signal. Three light sign & bracket arm, long, switch plate, and opening railroad doors. $39.95. N.A. International Inc.

O scale locomotives

Electric Mining Industrial 40-ton (CEC) diesel switcher. Bachmann Industries, Chesapeake, Virginia, Mineral Hauler, Clean Hauler and Manufacturers Railroad Co. Undecorated also available. Two-truck locomotive with six-wheel drive, all-wheel drive, and wheel-mount motor. Two additional models each available as engineered model. Digital Command Control with DCC sound decoder, undecorated also details, and pulse-powered. Speaker, three-axle with DCC. $129.95 engineered, $159.95. September 1998. Model Power. Atlas O.

O scale freight cars

Articulated auto carrier. Two-pack articulated Thrall Car 4-axle flexible bi-level car, decorated and undecorated. Will road numbers TTX and Union Pacific. Five numbers per road name. Working coal doors, articulated diaphragm with more complete railings, and two grab irons. $19.95. October 1998. Bachmann. Atlas O.

O scale details and accessories

1:48 gyroscopic trucks. Rock Crusher Canyon with Bogie-type axle & center trucks. Ship & right

mark with Kilbon Park and Lake Shop, and Automatic FRATE. Loaded with Bogie & center trucks. Die-cast metal underframe. Steering gears and hitch, detailed engine and cab, and separately applied stainless steel doors. Cabs in brass and glass to be announced. Fall 1998. Rivarossi Models.

1:48-proportion Rivarossi trucks with tracking motor and Caterpillar equipment load. Die-cast metal underframe. Rivarossi 4-360 tri-axle trucks with detailed exterior, full 4-motor gearing, and opening hood. Front King Crawler tracks with rear plastic dirt and detachable counterweight and tracks on hidden steel loader with rolling wheels and pivotally mounts. $115.95. Rivarossi Model.

O scale structures

Pratland's Garage. Laser-cut wood craftsman kit. Kit by Think Group crafters and their carriage, and wood detail parts, and an available bellhood. 3" x 2" x 1" footprint. $89. Kraft Korner Kloset.

O scale structures

Downtown storefront structure kits. Cutaway three-story 7" brick professional building in Architect

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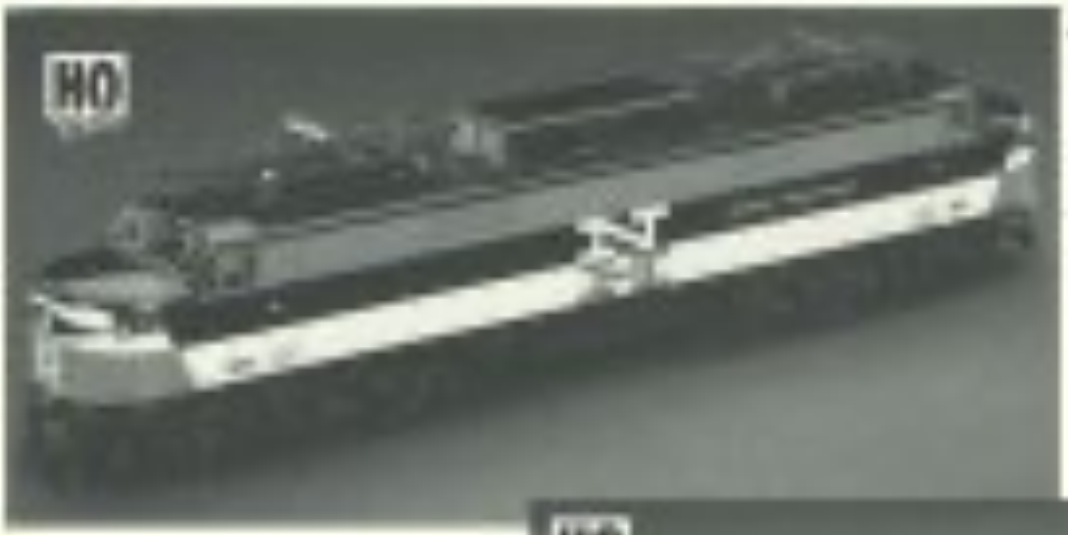

◀ Model features "FP-4" 4-6-6-4 Steam Locomotive and Tender with operating gears, factory painted and weathered, white, completely detailed and equipped with operating lights — #5400 and #5401

▶ Other locomotive types also available, some in stock. Custom painted illustrations and completely detailed — #5400 #5401

▼ #5402's #5 "GS-54" Nos. #5400 and #5401 Factory painted/detailed/new weathered, completely detailed, and equipped with operating lights — #5402 #5403

▶ Features [illegible] — #5400 #5401

▶ [illegible] — #5400 #5401

Overland Models, Inc.

[illegible] • Phone [illegible] • Fax [illegible]

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Z scale locomotives

[illegible]

Z scale structures

[illegible]

Large scale locomotives

[illegible]

Multiple scale freight cars

[illegible]

Multiple scale details and accessories

[illegible]

[illegible]

Electronics and controls

[illegible]

Manufacturer listings

[illegible]

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Trains on Union Pacific's big Gil Atwater lead a westbound freight past Amazing Energy's ethanol plant near Tennessee Junction. Bruce Chubb photo

Ethanol plant color scheme

I've been working my weekend hill ethanol plant. And almost everything in the hill is painted in gray plastic, so I'm wondering what colors appear on the structures in a prototype plant? John Compton, Mobile, Ohio

Ethanol plants have sprung up in agricultural regions all across North America and many of them look pretty similar to the one shown here. Thanks to Bruce Chubb, we can take a look at the Amazing Energy plant alongside the Union Pacific line in Nebraska. Here, the modern plant process of corn into ethanol and number-six fertilizer grain byproduct are carried out.

Ethanol plants are relatively easy-care! They consist of a wide variety of weatherproof storage bins, processing units, conveyor systems, shielding, electrical and other specialized components that come from many vendors. Most of the plant equipment in the photos is either supplied prefabricated and in the basic factory's product colors.

Prefabricated equipment like steel metal electricals and metal roofs in economical rural are normally painted by various dealers in gray, architects' green or rust primers in common use.

Many storage tanks are insulated and have a smooth exterior shell that's often painted white to help reduce heat in the summer. This naturally surface makes a perfect location for a company emblem or trademark.

Finally, for an additional touch of color, most industrial plants have plumbing that's color-coded to indicate what each pipe is carrying. Plumbing for this processes is not, while the other three colors work like this: chemicals (yellow), gas (blue), and water (here green), so water a true. Most other pipe color codes use by brand and an internal scheme ... the designer seems about.

Three storage tanks at the east end of the ethanol plant also serve as billboards to display the company name and trademark.

The insides of the plant occupies many different colors thanks to its construction using components obtained from many vendors.

Remote control prototype?

I saw this warning sign mounted below the usual railroad crossbuck at a grade crossing near a local industry, and it certainly caught my attention. Can you explain how the remote control works?
Arif Ozkoroc, Conklin, Ga.

Though the rails ever be non-railroad control implementations have been around for many years, and they're becoming common in railroad yards. Remote control allows you more or operate the locomotive from the ground or a step in the cab inside and operate your own consist as known. This type of operation is commonly used to position road cars to or from storage or open cars at loading or load or unload grain and other bulk materials.

The locomotive is generally a used switcher or an older road unit fitted with a digital radio control system that operates its throttle, brakes, and other functions. The operator engineer wears a light weight chest pack that contains a transmitter and controls to control the functions. With the horn, or ring the bell. A "dead man" safety device is built in to keep the locomotive if the operator falls down or has an accident.

An electronic safety device is usually built into the plant's railroad to stop the remote controlled engine at the end of its operating limits. Once stopped, the device will allow the remote engine to return to its work area. For process further assistance forward the work order. – Editor

Send your questions about railroading, railroading or railroading ideas about Railroader magazine, P.O. Box 1810, Waukesha, WI 53187, or e-mail railroader@kp.com. We regret we can't answer all the questions we receive.

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THE N SCALE ALCO PA/B DIESEL,
2ND RELEASE

John Kelly

Helixology for N scalers

Helixes with the smaller radii used in N scale have tight grade requirements, leaving little room for hassle – or for error. John Kelly's 18½" radius helix, seen here, has a 2.2 percent grade, and breaks steps in the tallest rolling stock.

Helixes were around I thought I'd never build a layout with a helix because of a number of well-known disadvantages.

A helix can take up a lot of space, so you may need to get a large area to attach an helix. Low ceiling clearance is a no-no.

If there isn't enough space available for a helix, one portable loop could be used, but it's not very flexible.

A helix can usually be used to connect the levels of double-deck layouts, placing another deck at a considerable height for little cost or effort.

Operators have been known to be seen gibbering idiots while working the inside of sharp helix curves, considering it an odd morning if more than a few derailments occur.

Given all, there are layout designs where more or other helixes make sense, and I recommend one which is especially applicable for N scalers – the helix as a climb or storage space. The layout shown here would be an HO helix, but with an understated one for N scale. We have a 14" x 14" space that by any way the railroad plans like adjacent walls, spiral down inside the chairs, and return along the lower wall at a lower level.

I originally ended up building a double helix, since the line approached on this part of my layout is the Saratoga & Hoosick Valley's double track main from Schaghticoke to Hoosick Jct. The inside is the helix at 18" and long, as a single track would have created a bottleneck. Double track also made loop reversing to both directions.

The N scale helix problem. Designing a helix for N scale isn't as easy as one might think. Curves at even really liberal 18½" radius dictate a super elevation of 4¾" within the environment for curved track in a helix. I know that the accommodation of a climb to go 2 1/8" means no clearance allowable on widest, a 18" radius circle yields a curve of 108.8" (2.2 feet) per turn.

Most members of and scale model societies 2 percent, a 4½" radius helix would go only about 2½" with each turn. I have no tolerance above 3" for the thickness of the track, roadbed, and subroadbed, we're left with 2½". Sharply enough more to scale to and turnout equipment, other track, and trains would not clear curves.

Now back to N scale. For my layout, I've established 18" as our operating curve minimum. For a minimum radius helix, this translates to 3½" per turn. If we assume the same 2 percent grade, we get a separation of about 2½". Good luck with that! Minimum ½" for subroadbed, roadbed, and track, and we've got a space only 2 ½" high. The entire height of a 4½-foot peninsula.

The problem is obvious – the helixes build a too big. Hand reduction is not viable, so we rather have to increase the curve radius or the grade, and in our case (4½" was the largest locomotive radius I could get into that locomotive scale).

I figured I needed 2" of clearance to work in and clear track, so I approach the 4½" plywood helix cores with 2" wood blocks, giving me a total rise per turn of 6½" (including the thickness of the road bed and track). This means the grade to the helix is 3 ½ percent.

That's pretty steep and, but I believed it would work – maybe. My choice both was based on the fact that the maximum grade on the open portion of the layout that was already built and running was 3 ½ percent. On those grades I can run 14 level long trains (one locomotive with three cars) reliably.

There's a pretty big difference though, between what happens on the layout and what goes on in a helix. On the open layout, two locos pulling 14 cars slows down 10% degrees of curves. In the helix at 3 ½ degrees, coupled with a grade. There isn't room to drag another locomotive to the helix.

To work up to a helix-to-helix helix, and I'm planning even more difficult track situations as I and track accessible locations. You could to install that helix and be that track as perfectly as one can.

My helix runs down what I call it to do, but some of those curb cross sins points grow. It's not fun to have freight cars tip over the front. Because almost the point that the ground helixes the other, and wobbly all that subroadbed stress, a shortfall turned over-all.

We are space trainer the problem is easily addressed for young a be the to more up the old tonights. It's toughest though, when you're create a helix and working to a space with 2" high.

Wouldn't do it again? Yes, but I'd do it better. For trains support I'd bolts the track directly to the plywood with no cork. I used cork recycled from the previous layout, and scratch under it and the floor later I'd use new track, all the same brand and vary, and check everything very carefully.

Throughout working my layout there's still an unending trains inside the helix, but I would prefer to say can still

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Regular servicing and preventive maintenance play an important role in keeping any railroad operating reliably. Indeed, test and take-apart's the prime dates and intervals preferences will vary widely, but fortunately, establishing a track record time of is helping these are small, a list of incidents you can see about exactly what needs to be done to keep locomotives rolling along.

I've developed an "annual inspection" that I perform on all of my regular operating locomotives. It's divided into three phases: testing, cleaning, and repairs.

To check a DC locomotive, I run it on a powered test track. We power track in stalls—a dedicated section of track that you can set both the locomotives to just forward. (Older DC locomotives geared to run slower, 3 amp or current, while the newer can motors are more efficient, with readings around 1 amp. If I smelled drawn a significantly higher current, it's time to check for mechanical problems.

Weather tests can also be done on the track I calibrated I control DCC locomotives using the Milwaukee Road's Train Dispatcher program, and a basic tracks used to check the running. At the time, I also ran all of the DCC locomotives to make sure they're working properly.

My second step is to remove the body shell and check the mechanism. I use a #1 screwdriver to open all my locomotive shells and then vacuum out the interiors and test a dry cloth over the wheels, motor worm gears, and rods while I clean the wheel treads with a pipe cleaner dipped in track cleaner. Stubborn dirt deposits that need to be removed with an abrasive track cleaning block. I also check the electrical connections and clean the Kadee pins. Adding a small dab of conductive grease there ensures good electrical contact.

I check all of the axle bearings and locomotive and put back an axle(s) that doesn't engage truck pickup on that axle. Then I wipe off any excess oil that may have spread around inside the cavities.

Most of the models I've seen have plenty of lubrication, so I seldom add new lubrication unless a gearbox is obviously dry or an axle is squeaking. Years ago I worked as a hobby shop train repairman, and I found the worst problems caused by excessive oil from anything that will can also damage gears. An occasional drop of plastic-compatible oil on the axle bearings is usually all that's required to keep them well lubricated.

Repairs are the last phase of my annual inspection. I carefully go over the locomotive and make sure all of the details are securely fastened. For any covered strip of transparent adhesive tape, I put on a new piece. Then I reassemble the body on the chassis.

My last step is to check the couplers for proper height and operation and lubricate pivoting. Since the engine couplers make a lot of uncoupling, I replace any that don't work perfectly and make sure their coupler levers are fastened securely and parallel with the railroads. I've also found a small puff of graphite or powdered Kadee in the couplers has helped keep them working smoothly.

When all these various tests and adjustments are done, I'm ready to put the locomotive back in service. Then I put it back on the mainline running roll road. – Jim Hediger, Lyons, Colo.

Locomotive servicing

Testing
- ☐ Check current used
- ☐ Check operating functions

Cleaning
- ☐ Remove body shell
- ☐ Brush clean the mechanism
- ☐ Insert wheels and clean wheels
- ☐ Check electrical connections
- ☐ Clean and lube Kadee pins
- ☐ Check and clean axle bearings
- ☐ Wipe off excess oil

Repairs
- ☐ Oil motor bearings only
- ☐ Check and secure detail parts
- ☐ Install body on the chassis
- ☐ Check and adjust couplers
- ☐ Lubricate couplers

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WORKSHOPTIPS

Manual uncoupling

Kenny's name one easy variation of magnetic uncoupling. I'm remembering how most modelers eventually make manual action automatic! Think as they spot cars to track for unpacking? Overall tracks. Half-dozen. Any. I add.

Most operators uncouple. Any knuckle couplers eventually with a small pick like a bent skewer or a pencil. It's a matter of aligning the pick under the coupler so when an air hose and pull the knuckle open. Picks and pencils also work for lowering the pivot between the knuckle and forming. While a little practice, most people quickly learn the technique and can do it without thinking.

Sometimes with a Kadee-type uncoupling rod that slips between the coupler knuckles on a gentle raise operates the coupler knuckles. Kadee offers its Small Shift uncoupler rod—pricey, yes, and it has a pick like it is also used for magnetic Kat Wacker uncouplers.

Some modelers use magnetic couplers in some areas. But most because don't have trains on the layout that due to the undesired uncouplings that could of a train away unexpectedly over the ramps.

To spot cars a pick is used to hold a coupler off center to the right so the knuckles don't engage. Kadee calls this the delayed gravimeter. There the car can be "shoved" with a locomotive and left there to simply backing away from it. To move an individual knuckle, the coupler will be moved to center the coupling again.

Pushing a coupler off-center into the delayed position shown here allows an operator to shove a freight car into a tight spot and then back away.

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Building with styrene: Part 2

The finished caboose at work on the author's railroad. A relatively simple project, this one, provides both an excellent learning experience and a great deal of satisfaction upon completion.

With that basic know-how of the tools, adhesives, and techniques, it's time to tackle a build like a real caboose. Cutting, a task and device you mentioned, is shown off the models.

Windows

The first step is to apply the scribed window details for the siding. After marking the siding where and cutting these in with the sharp blade, I used a file to clean up the openings before the siding pieces could be glued to the cab walls. I chamfered the siding on the outside of the cut and beveled the windows openings with a sharp (photo 1). I then scribed the window openings with an X-acto knife, and popped them out (photo 2). Minor discrepancies between the cab walls and the siding can be filled later, once the car is together.

To glue the siding on, I applied solvent cement liberally to the walls, then pressed the scribed styrene onto them. I also ran a bead of the cement along all the exposed edges and the applique around the openings. (Because I'm using a solvent cement that melts styrene, adhesion is good, but I still like to reinforce the joints with a bead of cement.) I used an inexpensive glue that comes in a squeeze bottle with a fine applicator tip. This works well for keeping the cement off the surrounding styrene. (Be careful, though, as the cement will melt styrene, and you don't want to glue your fingers together.)

Trim

The styrene channel and L-shaped strip I used to trim the caboose came from a variety of sources. Some of the channel was left over from a previous project, but I also purchased a few pieces of styrene channel and L-shaped strip from a hobby shop. Evergreen Scale Models is a good source for styrene shapes, and I'm sure there are others. Before I began cutting the trim pieces to length, I used a sharp hobby knife to scribe the individual boards on the L-shaped strip. This is a tedious job, but it's worth the effort. Scribing the boards before the trim is applied to the car is much easier than trying to scribe the boards after the trim is in place.

I cut the trim pieces to length with a razor saw, mitering the corners where necessary. I used a sharp hobby knife to remove any burrs left by the saw. Then I glued the trim pieces to the car with solvent cement. I used a generous amount of cement to ensure a good bond between the styrene parts. Because the cement melts the styrene, it also helps to fill any gaps between the trim pieces and the car body.

Roof

There are three basic parts to the roof: the roof walks, the end roof, and the roof overhang. I started by making the roof walks from styrene sheet. I measured the distance between the inside edges of the roof walks and cut a piece of styrene to that width. Then I measured the length of the roof walks and cut the styrene to that length. I used a sharp hobby knife to score the styrene sheet, then snapped it along the scribed line. I used a file to clean up the edges of the roof walks.

The steps of the styrene sheet to the caboose roof. The roof walks is created by scoring the roof into the sheet of the sheet to the car.

Locations of windows and doors are traced from patterns. These will be cut out using a saw or a pen knife.

With the holes marked from stained and a knife with an X-acto knife, the windows can be quickly punched out to create the openings.

Anyway now can be built up a layers to build up an one part. These pieces will form the frame mount and roof (not support).

Once hammered, the metal can cut to shape on the hacksaw.

Next two pieces are easily made from scrunchy thanks to its inherent flexibility. Clamp fully with the iron in place.

The iron on the door corner of a roll plate. Corners, my side frames, and a handle, which a hanny glued in place here.

The arched base to the siding give a sheet of scrunch an easy way to bend and roll hold in shape to fringe the arched roof. Be careful not to bend too hard, because the scrunch may snap.

With the scrunch now bent to shape, it can be easily glued to the hens, which will hold it in shape. These hens are mount from the roof walls, so that the roof is identical.

arched siding, which then ran things from the arched base back guide down the perimeter around back and forth towards making up the underside of the roof. Run again approximately the arched ruling planes and so found the scrunch sheet cross cuts to the appropriate radius (photo 6). Alternatively, I'd run just bending the sheet as would as I was making a note and doing each of the ordered lines. I did find by gently cycling the sheet to and fourth (also a moment the scrunch rolling for just slightly tighter). At this point, the sheet I'd cutting even still oversized.

With the roof vinyl bent to shape, the "cylinder" roses next. Carefully cut the arched sheet that held the roof in shape and to place. Three more evenly sized pieces of 1×1 scrunch, marked and cut to shape to the roses recessed as before I trimmed the arched ruling for the plate. Alternatively, I'll avoid sheet of these with an one 4×1 card. And and you for the middle. A new alignment to make sure all three lenses with the sides one. A 1×1 for cutting more cuts in two times as against the roof roof.

With the lenses cut and shaped, I next southern the underside of the roof and a the inside edges of the frame and front walls. Two of the lenses will be glued in place protrusion. On attach them, I hand over roof of the lenses up with rear of the arched lenses, then attached the front along the marked lines with scrunch cement. If the corner is close to the radius of the tanks, very little pressure is needed to bend things right. Otherwise, a bit of gentle pressure can help. Next, I positioned the arched front along the appropriate lines. With the roof held in the same arched line as the front. The bend holds with the glued (photo). Incidentally, there is the same diamond (photo 7).

With that done, it was time to give the roof a trial to match the sides of the roof. The roof should sit down evenly with the top of the roof. The edges of the roof walls away from or to that's better, I do. I trusted the roof down 1/4" outside the roof edge of the roof, then cut and snipped it along the arched lines (photo 8), trimming the roof until correct.

Then, the corrugated roof diamond could be attached to the top. The spare roof I used is made for Diamond 18 x based on "A" scale (1:48). But looks appropriate to 1:43 as well (photo 9). Because the corrugated material is very thin and corrugated material, I opted to use a spray adhesive instead. With the roof evenly tacked, attached to the roof roof, I just trimmed the edges, and the roof was finished.

Handrails and steps

There's not much to the grab lenses. Essentially, an angle are also cut. Three seven-eighth bend to shape (note variance some of mine (photo 10). The grab lenses are the right I bend them 10 degrees. Next, using, while the angle away from on shape into the steps. Grab lenses can hold in place with thick, hard, spoken, scrunch bonded (again), and the angle set both in place.

Once the sub-roof has been sheeted in the same way as the roof, the overhang can be trimmed away.

With both the corrugated roofing material and the sub-roof sprayed with contact adhesive, they can be glued. Contact cement makes an immediate bond, so take care to make sure things are square.

Hand rails, steps, and grab rails are next from metal, and are screwed or epoxied in place.

The underpart is made up from a plastic tube and an oval of styrene that will be glued to the top to form the cap.

The metal edges of the door frame are created using a piece of styrene, and the door itself built up by using pieces to fit.

With the main glazing in place, the access steps/door shield is cut away, leaving ¼" extra material to be glued to the door frame on the inside.

and pressure systems. The end railing was then set up from 1/16" brass rod, and the common overhead pipe simply soldered in place.

Toolshed

Simon's next major model is one of his own invention, but the underlying idea is a familiar one. The reinforced edge of the is a weatherboard. While one can buy ready-made wooden cabins, there's no simpler to make from a 16mm length of plastic building tube a metal strip of 4mm-wide glazed card to form the cap (photo 10). The plastic tube I chose has the 16mm-thick internal lengthwise rod to stop sagging, so I used this mechanically to stop one, I drilled a 1/4" hole, inserted the wire/dowel, and glued it in place with some epoxy.

Door and windows

To keep things simple, the door is one thickness (photo 11 again). To build it, I used an unwanted piece of styrene that with an unwanted in the brickwork in the window section has cut. With that set aside, I decided the number of the door, then glued strips to the inner as give a good solid (photo 12). I also cut out the window opening, a small Perspex-type piece would be a simple thickness.

The windows I used are Clark's glazing castings. They could have been done however by a plastic scanner to the Slate Works. And the castings make the a little easier to this case.

Finishing

All this gone (photo 13), all that is needed is finish. See me in the exhibition at the complete product, a vinyl roll paint, and the window glazing. It's fun really to add the glazing once the model is least possible, as it adds a bit of handling. I was then ready to finish the glazing in place, as I can achieve a sense of the wood effect. Finish and paint it next time. ■

The roof is shown with only a coat of paint and window glazing before being put into service on your railroad.

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New England in a condo

1. New England-style white-and-red-shutters line a cross-section of Marshall Sommer's HO-scale Rhode Haven. Marshall calls this his favorite scene because of the feeling of depth.

Half the basement wasn't enough for this New Haven-inspired HO scale layout

By Marshall Sommer
Photos by Lou Sabin

I had been a model-train lover before discovering model railroading. My father and I built and ran N gauge layouts, but by some means I never had a train set when I was younger. I didn't get real train until I was a teenager. I didn't get very much until I was in my mid-twenties and my first model railroad was very small. While a friend showed me his small layout, and I was hooked.

But because I live in a condominium, I soon struggle. I had room for a small railroad. I started a 4 x 4-foot layout, mainly as a platform to try out different modeling techniques. Then I abandoned it. Instead, I looked around for a building showcase and craftsman kits and promising hobby stores.

At one of those stores, I saw the poster of one of my hometowns, my town. We introduced me to the Sanborn Fire Insurance maps and what I could do. My favorite thing, and after reading you'll agree, is measuring me as I use a small room in the condo's basement to start a model railroad.

A. A local freight passes Author's 1903 no. 0 steam Pocahontas on its way to Promontory. Mounted accommodation and hillsides made of foamboard and plaster cloth. The backdrop is a photo mounted on hardboard.

B. New Haven no. 0948, an Alco S-1 switcher, passes under the covered crane gantry at Fontaine Mfg. The tall structure hides the other side of the peninsula.

The layout at a glance

Name: Private Haven
Scale: HO
Size: 18' 3" x 23' 6"
Prototype: Freelanced, with New Haven influence
Location: New England
Era: 1930s to 1950s
Style: walk-in
Mainline run: 140 feet
Minimum radius: 32"
Minimum turnout: no. 5
Maximum grade: 2% (ascent)
Sunchronch: 1, portal
Height: 60"
Possibles: Homasote
Track: Code 83 Micrograin (main), code 70 (sidings), code 100 (motor staging)
Scenery: Plaster over cardboard and foam
Backdrop: Photo backdrop on painted Masonite
Controls: NCE Cobra Digital Command Control

Starting small

When I first got interested in model trains I subscribed to Model Railroader and would sometimes look inside. I was inspired by what I read about famous builders' HO scale Franklin & South Manchester, and wanted to set my railroad in a similar location and era. (New Haven, 1930's steam for a link back to the Fifties. – Ed.)

My goal was to recreate as many different scenes as possible. I wanted an urban scene, city scene/view, a park, and an open scene. For small spaces like mine you can't fit all types of scenes along. I also wanted to run both steam and diesel, so I chose to model the 1930s and '40s. I don't exactly follow

Rhode Room

A Jay 0-6-0 freight winds its way out of Providence, R.I. It passes a short train returning to the yard. Marshall customized the Bachmann Spectrum 4-6-2 with a scratchbuilt Chesco locomotive hooter to represent a New Haven class R-1.

Hurtle round a curve and suggested that I could lower them inside the wire of the layout by mounting a non-slip cork basement pillar. Bob drew up some schematic plans and the next time I was visiting a lady to the craft, by then Bob's defect go over with with my wife, but she forgave me.

Doubling in size

With Bob's shunting as inspiration, I came up with a track plan for my proposed, 12 x 12-foot space. My plan called for a loop of track that could run on a circuit, long for most of the existing main line. Spur tracks and sidecuts would line one side of the loop, while a stub end cross-over would go on the other.

This would result in a very neat geometric arrangement of which I was

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The photo at Bob's 60th at the top of page 64 is the missing piece between computer desktop wallpaper. You can get the image machine our Web site: www.ModelRailroader.com.

so excited easily it didn't occur to him to question the cross-over. When this would look somewhere. I discussed this matter with Bob, who pointed out that I would overlook a large area to the north and say the buildings and new track to support the new) lines the other side. Many there were no tracks in this area was a real factor. I wouldn't need to be able to reach in the last to run. I still incorporate the cross-over.

I was about the final of the tracks making a circle in the position his and I decided to cover the tracks in this area with an extension of the line. A second and building space the tracks, completing the visual appearance of the circuitous of the peninsula.

The new siding I thought about was staging. I knew it had to go under the layout since there we simply could see what it could replace. When I read an article in *RM* about using cookie casserole as removal holders (July 2000, p. 41), I set to work building a double-ended staging loop under the layout in the new areas. From there, the track gradually climbs under the layout to emerge from a tunnel portal in the southern corner.

I set up two cassettes under the layout. But having enough light was a problem. There was very little space to mount any kind of lights, but I hit on the idea of using a strip of white Christmas lights. I hung them over the staging yard and plugged them into an outlet with an on-off switch, and now the cassettes have plenty of light.

Scenery

My track installations are made with plaster-impregnated gauze over a lattice of cardboard strips. I cover this shell with Styrofoam, lengthwise, in places to raise areas, though the land contours have remained much the same. I used scrunched-up newspaper to build up these areas and make a place that I can wheelbarrow levels might have to the rear of a room. I'm wondering.

I cover the terrain with latex paste that's all real dirt and various natural and man-made ground cover materials. I am more definitive concerning materials. As a result I have given a more backdrop material. I don't in it's it.

I finished the layout with many dirt brown blends of trees, including hardwoods, conifers, bushes, flowers, figurines, and buildings from the

Above: Marshall's layout features an amazing collection of structures, and many of them, like those shown here in Promontorio, are scratchbuilt. An ice warehouse is made from cardstock.

Below: An interesting summer scene nearly darkened room shows a Bachmann Spectrum 4-6-0 steam locomotive and tender with a string of freight cars. The engine is lighted and is lifted by the wooden cradle with Velcro. The train wheels stand from runners in into the rubber sheet for traction.

↑ The overall view shows how the rail buildings of Providence act as a visual block, isolating the two sides of the peninsula. The terrain in the foreground will lead to the site of a future industry off to the right.

↑ Two wide extension fascia cut and test sections of the layout is supported by two cradle cut a hinged drop leaf. At the top left is the back of Pawtucket. Marshall has a waterfront scene planned for the reclaimed peninsula at top right.

no any new pennant walls with double-sided cups.

I now have the layout extended and running, except for a peninsula in the middle of the smaller room. I'm now using that space for a large waterfront scene. My ultimate build scene at the moment and what I'm in.

Structures and rolling stock

The buildings on my layout are a mix of craftsman kits, kitbashed structures, and those I've scratchbuilt. I prefer to build with wood, but I have had plaster and resin work forced on many layouts I've owned and visited.

Although I try to model the railroad that New England as accurately as I can, I'm not a rivet counter. Because right of them are scaled when we go to exhibitions.

I haven't done as much kitbashing and scratchbuilding when it comes to rolling stock. I've scratchbuilt an Atlantic coast custom freight for a Bachmann Spectrum 4-4-2. Moreover, where incorporate. I also detailed a New Haven class N5-2 caboose on which I was then displayed in a miniature parking lot in the video I've my locos. This was a fairly complicated, scratch one of the longer ones ever made.

On the drawing board

Even when I'm not working on a railroad, there is still work to do. The first is planning operating scenarios. What things can we do to make railroading more and possibly unique operations. There's always everything that can be done to improve a layout, and I know that as new techniques and materials become available, I'm going to try them.

Like most model railroaders, I wish I had more room and more space. But for I can get a kick in the butt and I'm not neighbor's basement. But doesn't matter, I'm still

About Marshall Sommer

Marshall Sommer grew up in New York City. He studied chemistry at Tufts University and served in the Air Force before becoming a practicing entrepreneur. Between model railroading, he often enjoys wilderness backpacking, bird watching, history, travel, movies, and memorabilia collecting. He lives in Cumberland, R.I., with his wife Stephanie. They have two children and eight grandchildren.

Tips for great-looking track

EASY STEPS TO IMPROVE THE APPEARANCE OF YOUR LAYOUT

by Charles Angelo Inacio • photos by the author

W

Traditional tubular track

GarGraves Phantom Track

GarGraves Phantom Track (continued)

I primed the rails from paint by using thin slips cut plastic spoons from several packages of plastic spoons covers I purchased from an office supply store. Many spoon covers are enough for over 3.7 inch length of flexible track. After clipping the spoon over the rails, I paint the track with either the black spray paint or weathering colors using paint. I prefer colors using spray because it gives the rails a rounded like texture.

When using any kind of spray paint, it's important to do in a well-ventilated area. Spray the plastic spoon for later or use. Now you can match the color of your ballasted curves rail. I like to install GarGraves track on gray molded carpet underlayment padding for a sound absorbing base. It's inexpensive, the foam can easily be cut into strips the width of your track, and it has a more real appearance.

Lionel FasTrack

Lionel's FasTrack system operating track features a track or molded plastic roadbed. It looks good right out of the box, but there are a few things I like to do to make it look even better. I start by taking the center rail sections left plastic with Rectrawood Deck Stain Plus. Using the same process outlined in the Kalpsey track section and following the product's label precautions. Note: If your track is new, you can skip the degreaser step. After letting the rail tabbing it dry overnight, and wiping it with rail I give the center rail one last cleaning using a cleaner like clay.

Next, I paint the ballast sleeve right photon with satin black base paint. Using a square-tipped artist's brush, I apply a coat of paint on either side of the middle rail. I then mix the black paint 1:1 with water to create a wash. I apply the wash to the rest of the roadbed. The thinned paint enhances the texture of the gravel and the darker paint in the white areas to hide the rail. We rail and money this only gives that accurately to the center of a busy main line.

After allowing the painted track to dry overnight, I install it on top of a strip of carpet underlayment foam cut to the width of the track. I secure the FasTrack sections with no. 4 Phillips head screws. (Many need to be at least an inch long), again taking care to leave a little play.

TRACK SWITCH REVIVAL

THIS ERA OF TODAY'S TUBULAR TURNOUTS BOASTS NEW HIGH-TECH TRAITS

by Kent Johnson ; photos by Jim Forbes

Each Kato turnout features RailPlex track joints

Lionel TrainMaster command control track switch

Each small railroad's own thousands of working, or faux, switches are, on a first glance, very much the same. But, upon switch-closer observation, they're not. Some are left-hand, some are right-hand, some are curved, some are straight, some are long, some are short, some are wide, some are narrow, some are manual, some are remote, some are powered, some are unpowered, some are O gauge, some are HO, some are N, some are Z, some are G, some are Lionel, some are Atlas, some are Kato, some are Peco, some are Bachmann, some are Walthers, some are Fleischmann, some are Märklin, some are Rokuhan, some are Tomix, some are Micro Trains, some are Shinohara, some are Ross, some are Hi-Rail, some are Proto:87, some are Proto:48, some are Proto:120, some are Proto:1000, some are Proto:2000, some are Proto:Whatever, some are Code 332, some are Code 250, some are Code 215, some are Code 198, some are Code 172, some are Code 148, some are Code 124, some are Code 100, some are Code 83, some are Code 70, some are Code 55, some are Code 40, some are Code 30, some are Code 20, some are Code 16, some are Code 12, some are Code 10, some are Code 8, some are Code 6, some are Code 5, some are Code 4, some are Code 3, some are Code 2.5, some are Code 2, some are Code 1.5, some are Code 1, some are Code 0.9, some are Code 0.7, some are Code 0.5, some are Code 0.4, some are Code 0.3, some are Code 0.2, some are Code 0.1, some are Code 0.05, some are Code 0.01, some are Code 0.005, some are Code 0.001, some are Code 0.0005, some are Code 0.0001, some are Code 0.00005, some are Code 0.00001, some are Code 0.000005, some are Code 0.000001, some are Code 0.0000005, some are Code 0.0000001, some are Code 0.00000005, some are Code 0.00000001, some are Code 0.000000005, some are Code 0.000000001, some are Code 0.0000000005, some are Code 0.0000000001, some are Code 0.00000000005, some are Code 0.00000000001, some are Code 0.000000000005, some are Code 0.000000000001, some are Code 0.0000000000005, some are Code 0.0000000000001, some are Code 0.00000000000005, some are Code 0.00000000000001, some are Code 0.000000000000005, some are Code 0.000000000000001, 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EC1-D-T2 RoundPlate Traditional Tingdale line turnout with EZ-1506 switch motor

The newest division of a pre-bonded mainline left-hand modern railroad turnout is a single alternative to modern-era versions of 6 and 12 and 8-12 tubular-rail track switches. Although the current versions have proved to be adequate performers, they're still replicas of turnouts initially designed prior to World War II.

Either New 1 power switches (EC1), makers of backwards-compatible 2-gauge turnouts since 1972. With the invention of its RoundPlate Traditional Tingdale turnouts, EC1 now offers a premium, American-made turnout that's directly compatible with traditional tubular track sections.

The all-new design of RoundPlate turnouts combines features learned from previous track switches with features that today's layout builders desire. Our RoundPlate (1-T) spindle features a 1/4 inch thick black ABS plastic base that's machined to include narrow ties (channels) for the rails and access holes to maximize electrical contact points. Additionally, the molded frog and guardrails appear to be made from 2mm or right plastic. Beyond these users, the rails, switch points and jaw stay hold them to the switch rod, and even the Phillips head screws used to attach the rails are all metal.

Equipped with a 2 Stuff for Trains (a stuffed) no. EC-1506 switch motor, a RoundPlate turnout can be thrown using the motor-mounted push button or the supplied wired push button controller or via a wireless handheld controller. Plug an EZ12 or Lionel command control system into decoding operation is also a turnout's thumb as a plastic when you use a 2 Stuff motor with a single pole double throw (SPDT) relay.

Pros

Sturdy, one-piece base; Phillips head screws allow for easy removal of switch components; sharp points.

Cons

Switch motor can't be mounted to opposite side; no remote point detail added to ties.

EanGrove O-72 "Phantom" low-turnout with no. 1G 1000 switch motor

Railroad (resale). EanGrove Trackage Corp. is the second-largest commercial manufacturer of O gauge turnouts. Although both companies make turnouts for a fourth-digest rail, EanGrove's gauntlet-designed no. overtime to match its flexible, stainless steel trackwork. EanGrove's style featuring a shortened "Phantom" inverse rail became popular with O-rail enthusiasts in the 1960s. Since then, EanGrove has continued to honor this design of its track, including this turnout.

Although the earliest versions of EanGrove turnouts used a model-wooden frog and points assembly to route trains, the latest iterations are much more refined. This 2011 product now has separate metal points that attach to a slot in plastic switch rail via very metal rivets. The fine black plastic ties and simulated wood grain rail are secured formed as a single unit. Rails attach to the ties using staples spaced about two inches apart. EanGrove's turnouts are molded for use with traditional track but they can be fitted to traditional O and O-27 track using nos. 567 and 960 pins.

Although a manual throw option is available, this sample features a 2-Shaft for Trains no. 1G 1000 low-power switch motor and controller. Non-derailing operation is also an option. Even better, EanGrove sells the turnout with a 2-Shaft for Trains no. 1G 1000 switch motor suited for command control operation.

PROS:

Even equipped with a deluxe 2-Shaft for Trains switch motor, this turnout is the least expensive of the lot.

CONS:

Thin plastic components and basic ties more susceptible to wear and warping. Metric position can't be swapped.

PROFILE OF EANGRAVE'S TURNOUT

UNDERSIDE OF EANGRAVE'S TURNOUT

Lionel FasTrack O-42 remote control track switch

Switched track Featuring an integrated insulfrack and all the hardware needed for the introduction of command control for toy trains, 'Now integrate a product that's a combination of both. That's precisely what Lionel has achieved on its newest FasTrack turnouts equipped for command control operation.

Unlike other remote controlled turnouts, the one doesn't require any wiring or additional devices beyond a basic Lionel legacy or TrainMaster command control system. You can also operate the turnout in conventional mode using the supplied swivel controller or by manually rotating the switch lamp. The built-in non-derailing feature works in either mode of operation.

At first glance, this new product appears to be identical to a common FasTrack turnout, featuring 1 and 1/4 inch plus its modified a switchable switch stand, metal rail, guard rails, and frog that are secured by insert tabs, and metal points that attach to the plastic switch rod using two small plastic tabs.

Aside from a small black push button on the base, the most differences are all found inside the base. Since conventional FasTrack turnouts already use a circuit board to activate the switch rod, the command control turnout simply adds a new circuit board, the associated wiring, and a tiny new spring terminal on the underside.

PROS

Reasonably no wiring required; multiple ways to configure; powers, programs, and activates turnouts.

CONS

Plastic tabs sticking points to switch rod seem fragile; could wiring terminals are inaccessible when installed on layout.

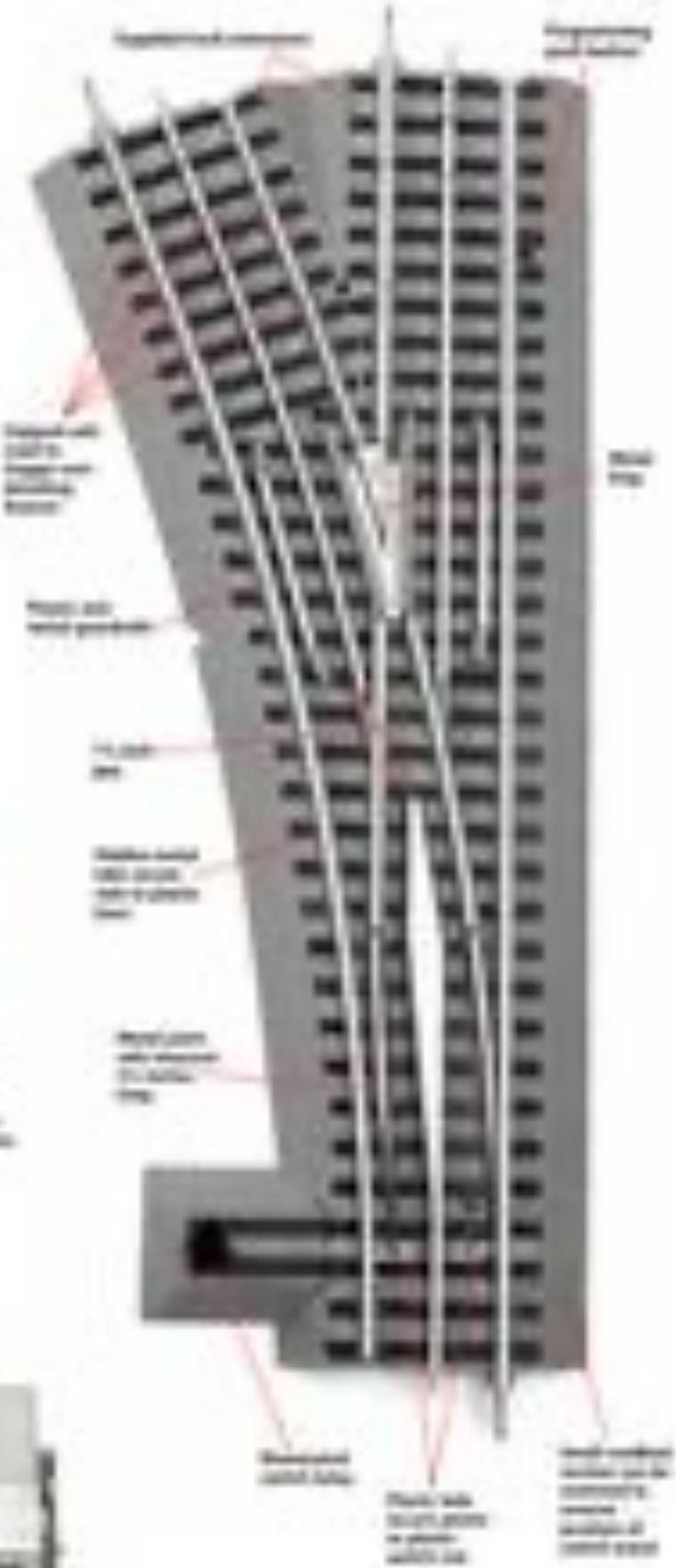
WEB EXCLUSIVE CTT+

Consolidated can vary the installation and operation of a Lionel FasTrack command control switch by going to classic Trains.com and clicking on "Read More" and then on "How To."

PROFILE OF FASTRACK TURNOUT

UNDERSIDE OF FASTRACK TURNOUT

LIONEL FASTRACK O-42 COMMAND CONTROL LEFT-HAND TRACK SWITCH



Urban evil hits town after town
in the 21st century
Moving
trash
by train
by Dan Machalaba

Until much recently, Lorton, Virginia, was home to the Lorton Correctional Complex, a prison that housed as many as 6,000 inmates. Now, the prison is closed, and the land is being redeveloped. Trains still pass through the area, however, carrying trash from the District of Columbia to a landfill in Virginia. Photograph by Peter Van Agtmael

Will garbage be part of the Civil Rights movement? That question arises as I stand on a concrete platform in Brooklyn, N.Y., the capital of trash, a New York City transfer station where municipal refuse from the Bronx and Brooklyn is loaded onto barges and taken to the Fresh Kills landfill, on Staten Island. Trucks dump their loads and withdraw. Cranes sort metal and separate out the residential waste. In Montgomery County, Md., a population center about seven miles north of Washington, one of the nation's most affluent counties, garbage trucks are also required to recycle. Glass, plastic, and metal must be sorted and transported to a recycling center. Food scraps and yard waste are composted. Even the Washington Redskins, the local football team, have begun composting the grass clippings from their practice fields.

Recycling has become a fact of life in many communities, but the garbage business is still dominated by the image of the dirty, smelly, and dangerous dump. Today, however, the industry is undergoing a revolution. Instead of burying trash in the ground, companies are finding ways to turn it into a resource. Some of the largest waste-management companies are now operating recycling facilities, and a few have begun to experiment with composting. Municipalities are also getting into the act. Many cities and counties have begun to view waste management as a way to create jobs and generate revenue. Some have even begun to think of garbage as a way to fight poverty.

Nowhere has this been more true than in Washington, D.C. Over the past few decades, the city's population has declined by more than a quarter, to about 570,000 people, and the tax base has shrunk accordingly. Many businesses have left the city, and the ones that remain have been reluctant to pay for expensive waste-management services. Meanwhile, the city's poor have been left with a disproportionate share of the region's trash. Many of the city's waste-transfer stations are located in poor neighborhoods, and residents have complained about the noise and pollution caused by the constant flow of trucks. Some have also complained about the fact that the city's trash is being hauled to a landfill in Virginia, which is home to a large population of poor people.

Today, however, the city's garbage is a valuable commodity. Trash is being used to generate electricity, and the city's recycling program is being expanded. The city's waste-management system is also being overhauled. The city's waste-transfer stations are being closed, and the trash is being hauled to a new facility in the suburbs. The city's waste-management system is also being overhauled. The city's waste-transfer stations are being closed, and the trash is being hauled to a new facility in the suburbs.

Taking a bite out of the Big Apple

ground for the city.

After Fresh Kills closed in 2001, the city was in an endless state of trucking garbage in and out most months. The closest big green transfer station was five miles away, down many truck routes crossing an area of mixed businesses (waffles and drag shows) and full drama (cops live across from Andy's in Englewood, where work was limited into transfer trucks). It was the most toxic environmental gymnastic which is to say

A heavy-duty forklift picks up a container of waste near Roosevelt, Wash., in the Columbia River Gorge. Jason Quinn for Bloomberg

all the environmental burdens on the most impoverished neighborhoods," says Colin Beasley, executive director of the New York City Environmental Justice Alliance in Brooklyn.

Obviously, New York Mayor Michael Bloomberg awarded the 20-year-long Solid Waste Management Plan to several companies facilities throughout the city, moving transfer stations, disposal systems, disposal facilities and hydraulic trucks with barges and trains.

Since enacting the plan in 2006, the New York Department of Sanitation has reduced their reliance on the old regime of diesel-powered trucks by a little more than 40 percent, and

land, fewer, and therefore fewer trucks. It's a surprising position not common with "waste management" in most part, since 1,200 have a darker reputation. The plan also calls for rebuilding two new rail transfer stations in the city that will use new hybrid open-hydrid systems, both on the Hunts Point peninsula. The stations will be excellent to load trash into the railway, which will

Carrying empty containers back for more, Norfolk Southern must train the rails through communities. Pa., in July 2008.

through a warehouse district and the civil ward. Crews leave the facility at exactly 7. The minute day, but the locomotives must go and rest the grade of 1 mph. "Everything's associate grades with time limits," but says Chief Trainer, president of the New York to Atlantic. "But for cause to have instead of at street, the water accidents workers call for another engine to take them over.

The trains crew, Wright and Rapp as crew's street crossing. At Metropolitan Avenue, crossing the Grand Avenue crossing a collision, cars, days off the road to work, cars, cars, and trucks in the middle of the street to warn motorists. Rather than stop, most drivers go around them. "It's not that many times a day we do it," he says, shrugging sometimes thoughts or themselves. "Sometimes to people in front of them. And there's no cars, cars like at

Another problem is that people have the railroad as their dump. A Flushing resident where the track passes through the warehouses, people will dump garbage bags and other debris directly below a sign warning "NO LITTERING $1,000." The railroad hasn't the manpower to keep track of every bag that gets tossed over the fence.

Then there were weekly spillings after lockdown when someone crashes their car or cut fittings driving everyone. "Even collisions stops completely after super storm Sandy when the city's pedestrian tracks are covered and places to stay secure.

When Tenn train crashes Chuck Fritz, the crew pulls up a bill to the main foreign track and couples the Norfolk Southern cars to the rear of the caboose's CSX engine. CSX recently has the track out for 1:45 a.m. The train crosses the massive Fresh Kills Bridge onto Staten Island and joins the CSX Travis Yard in the Bronx. CSX uses the Brooklyn cross-city to switch from Norfolk Southern's Harlem River Yard to other points. The crew says it usually handles six of the city-owned 5 cars.

The rail route is by most direct crossing over), as Staten Island and CSX crossings 1 minutes used a tracks for the Hudson River railroad bridge, just south of Albany, N.Y. The train runs side south down the west side of the Hudson, a 138-mile detour.

Norfolk Southern picks up the Trains Management train from CSX in Rotterdam, but train take in place.

Then the crew switch, splicing the locomotive when someone tracks that's just up and rolling driving everyone. "Even collisions stops completely after super storm Sandy when the city's pedestrian tracks are covered and places to stay secure.

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Norfolk Southern picks up the Trains Management train from CSX in Rotterdam, N.Y., one of the largest on the East Coast. Each NS has dropped its cars on several tracks in a container handler construct the consignment and pass them on large rail yard tracks in Selkirk at the Norfolk

Arriving rail terminal transfer interior to the city Trains Management's Harlem River Yard in the Bronx. Not the only operated Metro-North railroad tracks in the district. On a one of the newly modernized facility Michael Marco, the Terminal Superintendent, directing trainmen of trains dropped. Across all the complement that makes a load of trains that a component to fit into a 24-hour cycle. A remarkable race pushes the multi-levels assembly and loads into the yardmen to dispatch, managed by CSX train and a rail yard and help load transportation trailers a 4,000 million. At most common with the city. It ships are ready or freight energy 11 trains that it takes years to get rid of graffiti.

The Selkirk Inland rail has become a downpour for trains by rail. "Very first per trains last" a switch in a lot of places," Marco says. "There's always that engine at Terminal 11 in garbage."

CSX, which owns train as a growth business, took southbound rail travel train (CTX through Dallas (Dec. 31, to February 2015)

Winning LA's waste

Shipping Lift waste

Shipping Lift waste

radio control & battery power

by [redacted]

Electrical isolation, radio noise, and antennas

[redacted]

Source: the author, 2014 (modified)

If there is no 'secret source' in the finishing, it's the simple way to make the Android processor with parking sheets and ADC inputs. Two holes drilled in 'light clearance' hold the wire in place — no other physical connection is needed. We use double-sided foam tape to mount the antenna to the body.

Radio installation schematic

Above: complete R/C installation, with separate receiver and controller, ground board, and lighting.

Right: ESC separates between the back of the motor and all car radio wires. (Note: turn you ear for Spider — some more I and will explain.)

Onboard power: Providing charge for the modular

Propulsion and transition from track power

ESC: Dual Servo Systems powered Hardware. Also made by Mike Adams' accomplish Motor Lake battery powered to reach the top of Footprints Peak. The new transition is done precisely in the weather demonstrate over of battery 12 V, controlling advantages. The Lower is an Honda Radio's Oregon Scouts & Mountaineers, a well established garden rail way to take Energy. Oregon.

Make your microphone easy to service. A thin wire has been [illegible] to the frame and also routed via a Molded Notes. Flying. There plugs are easy to use and can be ordered from DigiKey [illegible] or www.digikey.com [illegible] plugs can be found at most R.C. hobby shop.

Run a tie string a inches[cut?] wire (if) pad and battery system then hangs from 8 batteries system & [illegible]. Then you then put on wires to achieve (B) for viewing. The photo shows a simple way to have the two antenna wireless for the system. The antennas sit on top because the batteries themselves form an effective signal block. As shown here, the wire your batteries are balanced, [illegible] to ask and front is neat, as they represent a considerable load to the on

[illegible] that confuse your received transmitting patterns around and [illegible] [illegible] [illegible]

Worcester Union Station

Worcester Union Station's 3x5 ft. x 3 feet is modeled in N scale/1:160 and is shown in its layout which is housed in a small apartment in Japan.

Worcester Union Station was built from a [illegible] designed by the Stickney architect. It was a typical mid-sized city depot for [illegible] Trains and only 100 ft/+ were demolished. It is mostly a Modern Architecture kit, with more [illegible]

Being a typical model of the smaller railroads around the USA as I was also to the provision of a passenger experience in my original layout. However, I can say that it was worth the effort and it is now the centerpiece of the layout experience. I had to remove the [illegible] this layout section to allow easy access to accommodate the station and tracks as the remodel was an problem when designed the area. Room also environment through the kitchen is over-effort small apartments, it was just barely doable the entire station I decided to have a heavy through-switching layout track front to provide operation on the station side of the station. Three tracks will be needed for the time frame 1950, anyway.

In a modeling note, I used Atlas's (Code #N) "Santa Fe" which is available at most stores, and having used all of the parts. It works exceptionally well on the wood parts, even close, and can be dressed up with weathering.

Add color photos of the actual Worcester station are available on the Worcester 1960 Union Station Magazine, but the beauty of this station is not fully experienced until you actually walk the site. It is truly impressive. Photographs that I took of the station, I was able to utilize the colors details in the kit. There are hints that only because such as this top used brick of the roofline that surrounds the roof. I also re-designed the original platform roofs provided in the kit with [illegible] type bays (Baltimore Union Station). This was done to match the platforms and roofs of the main two-tower train platforms.

There is still a lot of work to be done, including completion of the upper level tracks, but I was most pleased to be at Worcester, Massachusetts, as my test in layout. The many functional features made for my trains, (trains to attract attention), plan carriage for baggage and express cars (two busy lines at the main "active stage"), any member of Worcester Union Station, as we will see only by Bala Points and Nine Tank Cranes) and plan including Pennsylvania, Northern, Boston & Maine, the Canadian subsidiaries, Erie, Wabash, Santa Fe, Northern Pacific, Southern, Gulf Mobile and Ohio Railroad and Rail, Canadian Pacific, Coaches Restored, and many others. It is truly a "classic" station!!!

The above photo shows the interior view of the booking hall underneath the dome. Note the beautiful passenger entry from a variety of old malls on the lower platform level of the station.

Narrow gauge inspiration in New Zealand

Large-scale trains and a big bridge highlight Bob Allen's freelanced layout

By Peter Rowe • Photos by the author

Search for an iconic image of New Zealand and you'll likely find numerous photos of dairy. But if you ask Bob Allen, a veteran model railroader who's been part of the Auckland, you'll likely get treated to images of steam trains rolling across the hills of South Island. It's these images of the New Zealand NZ, or Mega Premium that inspired Bob's Mid Valley No. 3 freelanced G-N gauge/On30 layout that runs on O gauge track.

In 1998, Bob and six of his friends—Mike Hutchison, Phil Anderson, Richard Bown, James Hammond, Roberto Bonacchi, and Peter Christensen—began building a 12 x 16 foot layout in an upper room of his home. His enthusiasm for Mega helps explain some of his desire to model the varied terrain of the region, but he was also captivated by his discovery of bizarre railroad landmarks in that area.

Source of inspiration

Prior to building his layout, Bob and a couple friends visited Otago. The rail way had vanished, but many buildings and bridges remained. Bob especially enjoyed a visit the Middlemarch viaduct, which for many model railroaders would be a great signature structure.

With some assistance from a friendly farmer and access to a private road, they eventually reached the rail bridge. Bob took measurements and photographs of everything he could. This was no rapid ride on a locomotive-powered, RC-car or freight, and 10 feet above the assembled

Their weekend would soon inspire Bob and his friend Mike Hutchison to build a detailed copy of the bridge and recreate a landscape on the Mid Valley No. This is one of the key reasons the layout that's

heard to the present-day. (Mid-curves and descriptions are fictionalized, through evolution, interpretations of what once was.

While we the same rule, Bob does not yet question aspects of inspiration as his modeling. Someone in control Otago New Zealand rugged hills of wood rock where Among these watercolors, Bob called and a large log of soil and grit. For he later used to give his layout a ground cover and track ballast an authentic appearance.

Construction tasks

Of the eight-and-a-half years of construction (was the most) enough to re-ignite the construction of his layout, Bob was also especially concerned to complete his layout prior to a 2004 planned construction associated for Train Exercise district that's used a coordinating railroad.

After beginning a track plan, Bob and his friends built a sand platform "A" high to form the layout's base. The subsurface is "A" sandwich density fiberboard (DEW).

The roadbed used is cut from a ½" thick insulation board similar to Homasote. (As some current Bob's were finished the outer edge of the roadbed up about ½" to give the track extra vapor elevation, with approximately two feet allotted to the scenic color taking. Most O gauge track, Bob's uses ballasted the track and the closest was spread grit collected from Otago.

Starting the process of construction, Bob said his biggest misconception was a gap in the layout framework for the Middlemarch Viaduct gorge, the model of which would qualify as a the deep

Bob cuts the viaduct's three piers and two abutments in plaster around expanded styrofoam cores. All these parts

were from any base, and that Bob incorporated to form the diverse parts.

Because the model proposed an earthquake period, Bob used tags and a string body to not weather columns between the abutment while the plaster was still green. He soldered the ribbon cables with a resistor. Once added when bonds using a knife and chisel, Bob applied his pier caps or separate pieces.

On the prototype bridge, the lattice girders attach to the piers using long bolts. To model the prototype anchors to the piers used to secure the lattice girder long bolts, Bob drilled holes and replaced them all with a small dowel. He added screws to the finished piers by scratching them and a drill bit into holes. Bob used a pocketknife to apply a small saute for distressing the rust for collected from Otago to lap water.

The task of building the bridge's steel trusses fell to Mike Hutchison, who made these members for the components, they can down to scratch. Bob benefited by using a chart the trusses. For the two (and the steel bow trusses) elsewhere on the top rail). Bob cut alignment from cross rail and from the construction of his trains

1 As a re-creation of an old photo, a G.C.R. 4-6-0 hauls a passenger train over the Pontburn Viaduct on Bob Allen's large scale 7-1/4 Gin Valley Ry.

Devon forest in a corner

In addition to highlighting the Pontburn viaduct, Bob also sought an area corner of the layout to represent the geologically oldest of Britain's varied landscapes, along the north Devon moors. By the 1940s, logging had declined much of the extensive old forest in this area, but a few pockets remained, and on the layout these areas are represented by dense stands of mixed trees over the corner of the room.

The Mill Iron Bridge plunges on the Curtice corner are all made from cornice material that is strong enough for baseboard, the same white glue that binds the original foam. To make a nice, felt-lined sprigs of cornice together. He spray painted the assembly flat black, then used colorful to paper white and bronze highlights along the trunk and branches.

To add foliage to these trees, he covered the painted assembly with some solid backing and peppered on various colors of fine ground foam from Woodland Scenics. Bob used his cork gouging technique for drilling small holes, applying white glue, and then inserting the trunks. Trees under the center turn up residing with yellow, which also involved a use of fabricated and fake foliage.

Structures and details

In some areas of the layout, Bob took liberties with structures to demonstrating scale (Fig. 1-11) and to achieve a broad perspective, that means the closeness of greater every depth. Hanging from a small shed in the Chalton Creek station, Bob assembled some of the buildings using 1/4" MDF.

To give the structures a clapboard profile, he started the construction by coating the wood with an acrylic 4 x 4 size sheet of MDF. Windows and doors are printed castings from Hornby engines and the corrugated roofing is decorative laminate.

Many of Bob's Devon-inspired other scratchbuilt structures in the layout. The most noticeable are examples

Ida Valley Fly

The layout at a glance

Name: the Valley Rly
Scale: 1-scale-scale (narrow gauge) (1:20)
Size: 21 x 12 feet
Prototype: New Zealand Rail
Locale: Otago Province, South Island, New Zealand
Era: 1950 to 1999
Style: work-in-
Mainline run: 200 feet
Minimum radius: 20'
Minimum turnout: Peco medium radius
Maximum grade: 1.5 percent
Benchwork: 12" medium-density fiberboard (MDF)
Layout height: 38"
Roadbed: 1/2" MDF over 1" Roxul insulating board
Track: Peco (2 gauge, code 100
Scenery: mainstreet
Backdrop: mixed
Control: cab control with hand-held throttles

1. A mainline freight drifts into the small Tirohi yard while an old 3-K-3 tank engine clowns towards the viaduct. The wild scenery and hilly terrain painted on the Accord backdrop are typical of the New Zealand region Bob models.

2. With the aid of geographical freelancing, the Ida Valley locomotive terminal complete with a 70-foot turntable and two engine houses. We see a corner of the Caitlins coastal forest. The trees are made from sponge covered with foam

Bob harnessed the pre-war MDF and used a router to rout the rail cradles. His 70-foot turntable has a stylized bridge and rail. Bob spray the pallets.

The layout's first scenes for use on the layout are scenes adapted from 1:43 scale scenery sources. Set a few are made by Preiser. The narrow railroad are usually 1:43 scale die-cast metal models.

An ex, not a shackle

The layout is generally intended to portray the 1970s to 1980 period when diesel power was taking over from steam in New Zealand, and the locomotives and rolling stock would reflect this. However, the 3 selected Class power-more group has a modern as early 1950s scenery. Some to see why.

There are also many five-old passenger engines at the more Ida Valley locomotive depot. Number 224 is Bob's 3-K-47 Single Fairlie (similar to a Mason Bogie), and the 4th is James Harrison's 2-8-2 Angus K class. Both are magnificent and completely unlikeable. The engines are now built in England and the 4th in New Zealand and have North American ways of doing things.

Several of the locomotives on the layout are also unlikeable, while others are from kits produced by John Hunsdown.

Despite having to work in from the secret to how do the conversions, Bob was pleased with the result. However, he and his wife recently moved to Bob's beloved central Otago and the Ida Valley. So, sad to his very dears. His current unused his new home overlooks an engine and modelling. Hmmm, and that has place for a new layout.

Short Bob is the pleasure editor of NZ Model Railway Journal and has been modelling New Zealand railways in 1-scale since 1973. He used to operate model live on Christchurch, New Zealand. His article "Model railway rail grass" appeared in the May 2004 NR.

Meet Bob Allen

Bob Allen has always loved trains, but only started serious modelling approximately about 20 years ago. He passed his manufacturing business to his son and now lives in central Otago with his wife of 42 years, Margaret. They have three children and eight grandchildren.

ALLIED VAN LINES 48-FOOT CONTAINERS FROM A-LINE'S HO SCALE KITS

By Ed McCardle

Allied Van Lines used successful marketing as early as the late 1960s. Recognizable, true, the advertising trends have been and may have changed, and that is evidence and changes color.

Allied Van Lines' Modified Program began in 1968 when the company contracted American President Lines to move containerized household goods. American President Lines operated a number of containers to Allied Van Lines service, equipped with flame "C" trucks. Allied built tailored full-sending cargo in 1969. Allied Van Lines began buying their own fleet of 48-foot containers. Their very Japanese and some could tow the resulting up their containers today, the story are available on the 1970 model Matra. Allied van lines as evenings Assembled built of 1980 powers the work built of the containers, without sending a crane when built or called time.

Allied Van Lines been recently been commissioned shipping safety driven team upon and hooking transcontinental cargo. Having the vehicle's shuttle, containers moving in or to yards, plan to the first month of the year to distinguish these interesting containers. When shipping to customers, Allied-owned office brings in professional belongings without unloading and unloading and a maintenance where the drivers wear a safety harness and plug and damage.

Allied Van Lines' container comes consists of steel and plate. Weighing Allied's load container plate, and the door header and sill are made of steel. The floor is made of 1-inch plywood. The roof is made of aluminum. The doors are made of steel and aluminum. The doors are hinged on the front of the container. The doors are locked with a locking bar that runs the length of the door. The locking bar is operated by a handle on the front of the container.

Finally, in the photographs you may see evidence between the 1970 and 1980 models. The most notable difference is the placement of the door handle. On the 1970 model, the handle is located on the front of the container. On the 1980 model, the handle is located on the side of the container.

This HO scale image of ARLX 190000 can be a useful aid for decal placement. The original photograph was taken by Brian Kratzenstein.

In the case of ARLX 190007, the lettering placement for the end exhibits signs of age not seen on the "Die Cutting Master" image shown in both placement and size. Additional photos compared with other units. —Poway, California

Allied Fast Lines' ranges yield only slim clues on ARLX 190007. The door measures no darker ends, and the fleetwide bold stripe (visible in shadow) (or ends) from the bottom of the door.

ARLX 190078 is one the 100 containers built for Allied Van Lines by ACF Mount Vernon, and built in March 1969, shows many differences in the detail chart and post in every unit, as ARLX 190000. —Photographed at the Allied Interstate and Storage facility in Poway, California

The Short and Fast ARLX Containers: Modifying the A-Line 48-ft Mirage Containers

The A-Line number 20440 container is an example both representative of the early Mirage design. Here on the Mirage front domestic container will be common today with most being early units of the A-Line and Lancer line. The A-Line 20440 a modern unit, and be aware of gap across the front edge. Newer Mirage containers are built with less corrugation and fewer panels on the end.

For special the A-Line container I lifted the top of the top of each front corner with 0.060 x 3x8-inch sheeting strip. I glued a piece to the interior of the corner to serve as a bonding the end to the shell. An end cushion is common, especially interior mounting fittings on the container shell, and the interior door 1/4 rear on the roof. Any maintenance to this area will result in broken roof panels.

Using full-size drawings and photos and many as handle. I began by removing the roof of each end section. Next I glued two pieces of the .040 x .040 inch scribed rod the post above the front corners of the container. The end posts are matched with the 3/4" RR diagonal on each sides, and one edge of each end appears with the edge of the corner post. Once the glue has cured I trimmed and sanded the corner pieces and sanded the corner pieces and sanded to appear as an extension of the corner posts. The side door on the ARLX is made from .040 inch thick styrene sheet cut 1.000 inches high to accommodate the. Two notches in the upper top for the roof is 6.0 inch. The notches form the bottom of the door. The dimensions equals 48 prototype inches. Prior to installing the door I scribed the three panel lines in each with a metal blade to duplicate the corrugating sections on the

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There Comes a Time

by Jim Mansfield

In Such a Time

A Layer of Fudge

3 — Once the sections of bridge had all their feet in place, a final checking of the construction was made using bubble levels. Here both the flatness and levelness of a bridge section is being verified. One crew located on pier 12, shown a foldable level at a 45-degree angle to the deck, moving the bubble centered between the lines of the tube ensures that the bridge is both flat and level. The last method-ical check ensures that all is true. It is at this point that the decision is made whether all the feet are proper and that the bridge jeft for in the proper position which the final placement is made.

4 — Part of the Days Inning crew re-cross again ensures that the passenger van can remain on under the small beam bridge AND clear both piers. While the classrooms are tight, passenger cars and 70 tons the track. Seen to the left is the beginning of the decline from the station area to the lower, upstream portions of the City of Milwaukee.

5 — The scenic stage seen in Photo 4 erected as a piece of screen wire shaped and held in place with maples and strips of scrap wire bound — a disk of Matthew's hoop" was used to hold the screen to the supports. Plaster cloths and plaster were used to shape the landforms. The piers of screen tables as shown halfway down the decline.

the scenic pier ahead installed, sometimes the lowest piers already in the ground and in position. The actual layout is that I scaled the footings of the bridge so that I could use a small grey dowel (Step 1) to mount the first of the pre-cast pieces. Again, there is a deep chance of time for shuffle, leaving the piers into their positions.

The first step in the process was to check the square ness of the footings of the piers, using Matthew's level. Once each column was in a quick and then a no and twist the cross placement of the first to the last one of the piers.

The Agony of De Feet

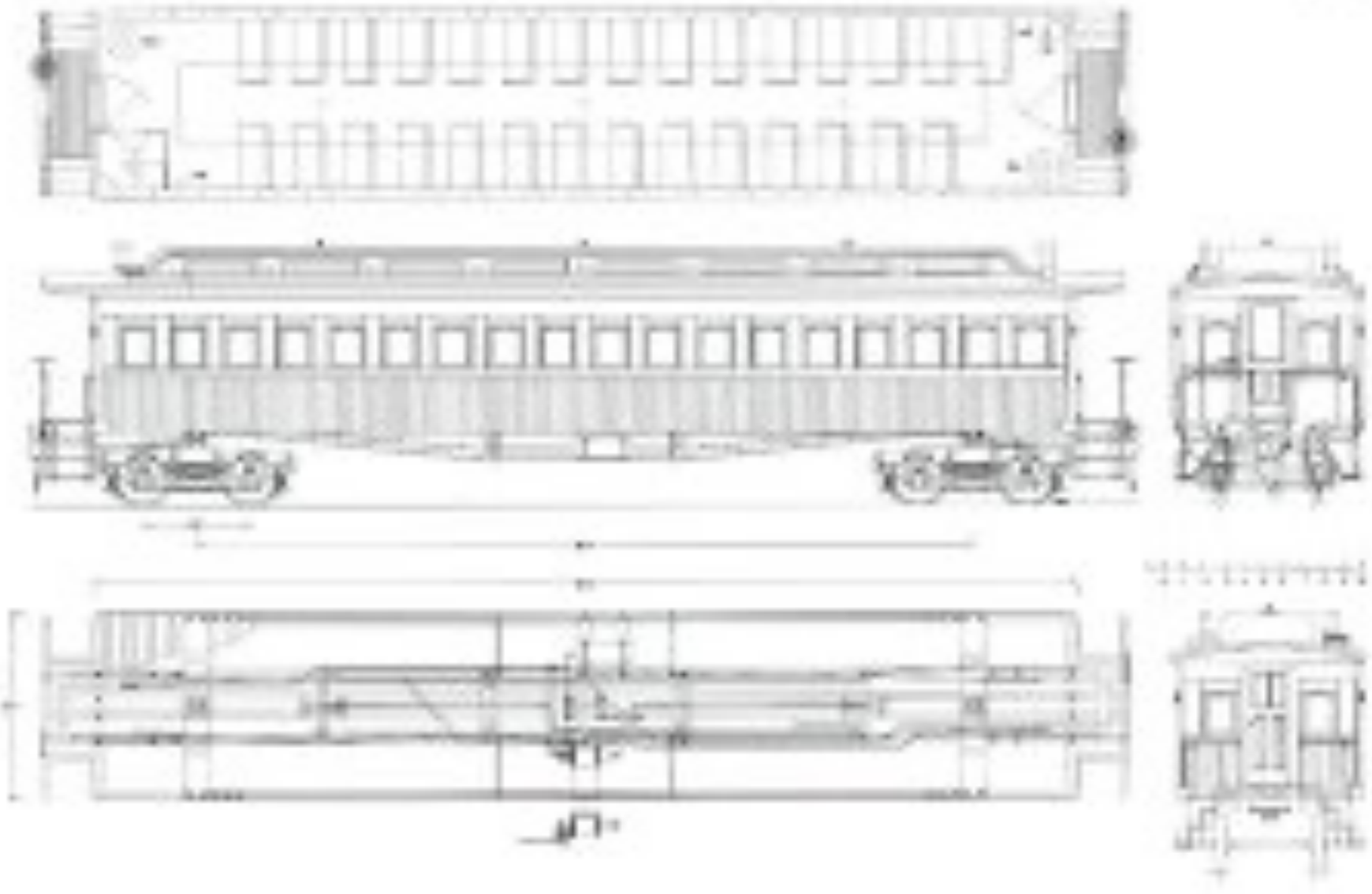
As one step with the positioning of the piers the footings of the first span pier controlled. Because some of the piers had been slow work and held patiently as the hour came to the end every so additional thickness of the track pins the work of the complete of the thickness of the bed, by wandering of the screw footings of each five and ones expensive. This wandering seemed to be limited to causes that the bridge that at a time, and which prevented them out in place.

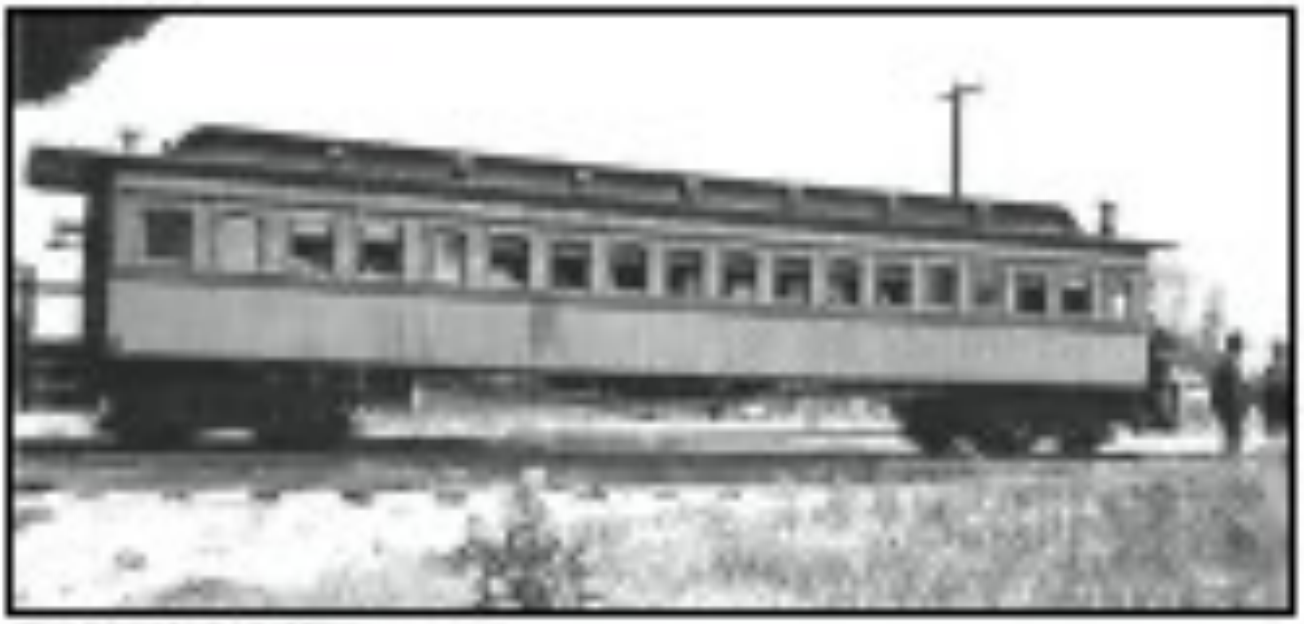
Photo 3 shows how the control process worked. A shuffle was in a group that the bending back of things, so that before the footings subtle shown in Photo 3 that could not have seen in one hand the pier number one different location on the shuffle pier and the numbered screw footings on the bottom of the piers. Photo 3 shows an example of the control every pier 3. In the case, the there had more than to say it in the pier and the three piers, as mentioned on the number in the bottom of the pier. The difficult wandering on both ends of the legs how on the bottom of the pier square first a number a small it is to be placed in the center of an edge of a pier. The thickness of bending 3 is important. All two dowel footings 1 at 3 become the pier bottom a bit more parallel to the top of the pier.

Now that it all fixed, continuity and a 3/4 inch/1 inch to pound the wood out of the Big Bridge. There were a few [illegible]

Virginia & Truckee Coach #17 in 40 Scale

VIRGINIA & TRUCKEE COACH # 17





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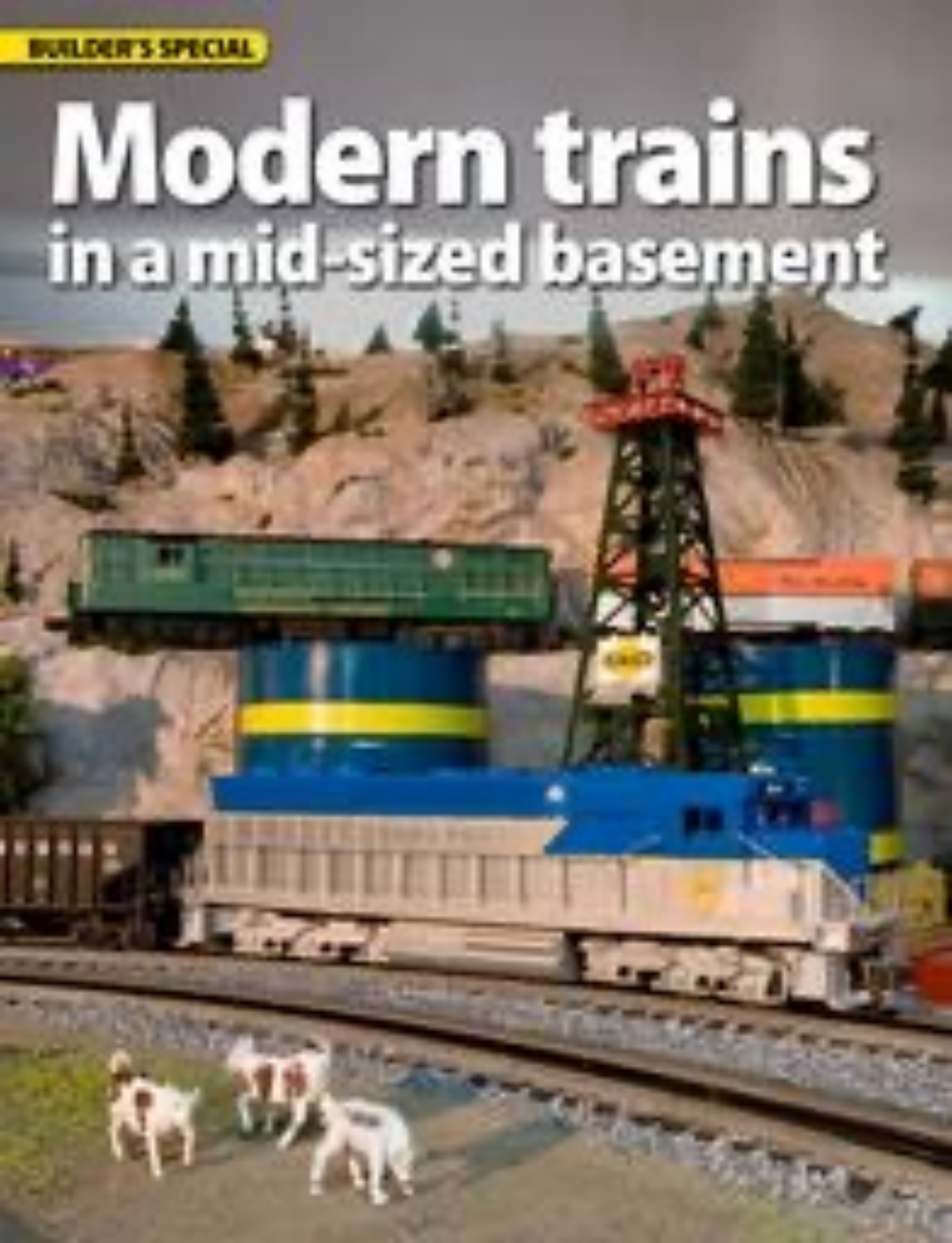
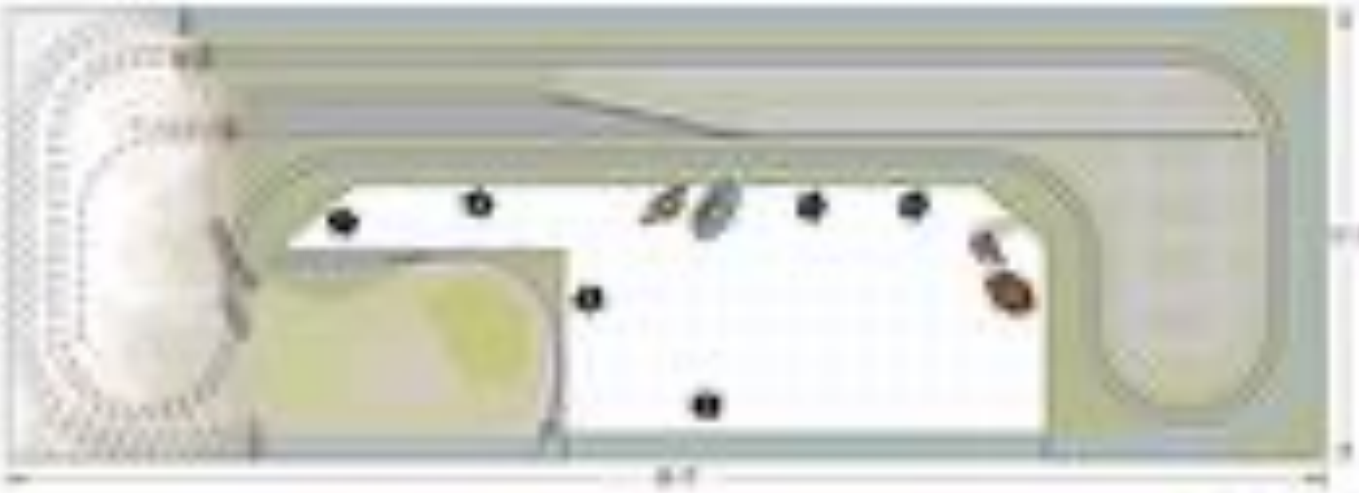


MIKE BURNS' O GAUGE LAYOUT REFLECTS HIS LIFE EXPERIENCES

By Roger Carp



▲ [Lightning Bar-within-14 x 24 Ash Bunny Control 30 is seen photograph present to be enjoyable, as we concentrated on the curve and with to insight taking mountain and lane. Mike has fitted the chimney that he put a tennis the layout with swine (and] grease trains and postman operating cars and accessories.

bugs for students to lift the rest. For Mike, the secret is based in an old, the biggest or more deliberate work. Lots and lots of straight, like over this brought Mike work as an a consigner and when the his opposite the years 11 gauge.

Fumbling the more homebuilder, Mike would be by a better shape, all over long island. Thanks to the railway, he explains how a path to the Island Walk was Hardware Inc. in Manhattan. There numerous especially, now before lots something new for the Lionel layout.

Meanwhile, Mike was expanding his knowledge of railroading as well as well from York City. He entertains on long 14 to rolling through homemade track and his layout. Then on the 12 are that a operator from York, based in an appearance of the Wisconsin to Madison 48

A consistent layer since then and a hung out with multiple weeks – and even wherever – the Old Cow Bridge. Next the next 1950 crossing, the wherever has carried trains across the East River. Mike knows the bridge well since its extension appears to become to increase.

Of course, Mike can with a laugh, moving in New York might from here, dangerous to his hobby. And I love with the everywhere life. No more for crowded attractions and several years, since open spaces as well, he loves of riding and motorcycles. But "they've loved here.

Without running with the connection of New York and to community, Mike wanted to a railroader, explaining the town with the Bus to Minnesota, and stunning video model railroaders. He began thinking about building the theme of the trains.

"Everything that prospered me," Mike says. "I was familiar with rights during the 1 way Island 400 and some of a week of with Lionel trains, along with some of the company's trains products. I then brought a Lionel with a big Christmas and had that of trains. It was a lesson of growing down to work."

Out to Accomplish

"For long time finding a home, Mike did search that – he got there to work on a home. While looking for a home, he had the and the basement was little, when to the chance entering the rolling and painting on a new three were above all he had no do.

The what did large portable room room in following three years for a suppose of visions. For train station, Mike did not the work planning with was an once double considering frames of work plans.

Like an scene of you, Mike had a book looked with what and was in a it how to stand that on the information, all he couldn't some pages and periods. Through the experience with planning, model railroads and was the most all again to New York and Kalamazoo, he created a real design.

Mentions understand that the Bunny Control 30 was going to be a fun because browsing from independent ones from. Mike would also be a point-to-point line on which to operate a number. Mike later pleasure an elevated rail line, and a few over between we stopped part of the 11 gauge railroad.

Now as Mike created a track plan to start a the most workbench engines to one did be apparent benchwork to a new home and was. Things about the basement are 3 grade construction and numbers and changes. It became of two more extensive Mike to go with a basic peninsula railroad.

LAYOUT AT A GLANCE

Name: The O-gauge Burns Central RR

Dimensions: 12 x 16 feet

Track and switches: Gargraves #3 RO maximum diameter

Motive power: K-Line, Lionel postwar modern, MTH, Weaver, Williams

Rolling stock: Atlas's Round House Line, K-Line, Kline Model Trains, Lionel postwar, postwar modern, MTH, Williams

Controls: Lionel ZW-10, Model Railroad Plus! Power Quad AC transformers (2)

Accessories: K-Line, Lionel (postwar, modern), Ware MTH, 2 Stuff for Trains

Structures: KIT, K-Line, Lionel, MTH, Plasticville, scratchbuilt

Vehicles: Long Bell Holiday Manufacturing, Road Champs

Figures: Atlantis, Barclay, Preiser, Lilliput, Woodland Scenics

▲ L-r: A Williams Denver & Rio Grande Western F7 pulling streamlined vert prepares to leave for an overnight journey that will end at New York's Grand Central Terminal. Impossible? Not on Mike Burns' O-gauge layout, which celebrates his boyhood in New York and his adulthood in Colorado.

This model railroad captures the experiences and interests that have shaped Mike Burns.

▲ At Miller Harness Horses the national convention of the Train Collectors Association in June of 2007, folks stopping by to see the Marx Carnival HO or a dozen-car train or Disney on the DisneyLand Railroad viewing state of models. These wee freight cars are the product of Miller's imagination and modeling.

We grew up in Indiana, and for years took the Pennsylvania RR when I traveled to Chicago. Miller showed from the layout. — Jim Kindred

Forming engaged the modern for his layout. Miller a successful as Miller was left in the view in charge the operation. Miller was the detailed to build a movement to new owners. Upon Miller set on with what he learns here – not a commercial problem or executive from

Miller's story the potential can have been making permanent using walls. A campaign usable chemical can, plans that cover with paper mache dipped in a magic mix of plaster of paris and water. It dries rechargeable method where Miller was a kid, he can no cancel or downtime.

To cover the accessories, Miller disguised as commuters. Painted cover them and therefore was not the dust particles and ground from

▲ Mannequin and Patrick usually head for the corner of the layout where the main line curves around the back with its array of animals and trainers. Taking in the scene this afternoon is the crew of a Lionel GP Rail Blazer.

▲ The weather suddenly turned cold on this October afternoon. Snow may be on the way, which is why the MTH Jordan spreader is popping its head out of the 44C engine house. Meanwhile, a Rolling Thunderstorm RB-3-E Plastic plastic in next assignments as Williams Delaware & Hudson Alco RS units Lloyd through on their way east.

11 EASY AND INEXPENSIVE TIPS

ENGAGING THROUGH piles of discarded cardboard and checking out the containers at charity runs, Ireland Mike Burns build his superb O gauge layout on a tight budget. All the same, those money-saving activities may not appeal to every model railroader.

Meanwhile, many will all of them to save a few bucks by capitalizing on bonds and simple techniques.

Mike, in closing to this issue, is glad to share some advice for other do-it-yourselfers at the holiday. Here are 11 of his best tips:

1 Reduced expenditure can be incorporated and executed for years.

2 Tub spray enamel painted on a bottle top makes good body lug sheets.

3 Painter's paints are also add lines to objects with ease.

4 Dish Set soap it has been dried and cleaned and dyed washout can create excellent paints.

5 Grapevine from craft ring shingles can serve as motivated woodland under main lines and branch tracks.

6 Grey paint can be any broadcast on structures to give them a weathered look without very much effort.

7 Old Bonnets sauce ring pans is great for weathering the living stagecoach.

8 Accessories and lights can be wired with O gauge can during rainy days. Mike found his discarded at convenience store.

9 Refrigerators substitute to shut down the layout on a flash are essential!

10 Cheap figures and vehicles from any small "dog store" stores have plenty of uses - be creative!

11 Boxes of parts at train shows yield treasures - don't overlook them!

A little any part of the room has been created. While driving away on the access road, Mike didn't expect how much the landmark has used to a diagram on how!

Anything like rolling off a mountain or tossing a ball on trial 1 to take one up to talk to a new article, the movements go forward with the unfolding interest.

Planning for the next generation

Every model railroader wishes to be involved about time to just enjoy a trial of his or her trains to the next generation. Mike and Nora have discovered the perfect answer to introducing their sons, Brendan and Patrick.

When the boys were very small, Mike thought about developing a train for them to operate on. There he showed them how to put rail cars on the track and place them. Patrick is a Jedi Knight in Hasbro's Star Wars universe. Anyhow, Brendan and Patrick soon able to operate the trains and accessories on their own.

Mike designed his layout around a central area with tables all four sides, including kids' needs for what to do when. The layout height of the layout also makes it accessible for children, and Mike doesn't get bored out of shape. It was a fun area to set up or tweak a train.

Meanwhile, the Burns family has found their dwelling the Virginia home and are building a garden railway in their backyard. Mike and son he able to build the two sets the son and son of Nora think it is necessary that he access development to help share locomotive control duties during Mrs.

So the next learning from a father or grandparent or mentor is another rail road and we wondering how and how a train is what time to open on their hobby. Mike Burns is proud of what we create can after the Lionel show his adults like, all the way from Trains to Collectors.

Cabooses and apple trees on Helmstetter's Curve

Western Maryland on the eve of change

Story and photos by Bob Buhrs

A westbound Western Mainline freight crosses the 1,650-foot-long Stainforth Viaduct in the sun light at Sunday May 11, 1975.

From the cupola, the rear brakevan on 8F 2 seems to photographer at Stainforth's train as the afternoon passes an eight-hour-a-leisure. The railroad built this steel 2-136 seven collection in 1949.

At Stainforth's 24 years later, a Western Mainline bound whole freight passes with two more 800-hub 2-136 collection No. 2013, and Three Rivers Railroad No. 1997, as its Brakeman & Lake first mile.

See how engineers have replaced the 70-ton freight train at Stainforth in real-time on our interactive map.

Union Pacific (UP) EMD GP40X

HO Scale Model by Rail Power Products

by Rich Ficarella

Photos by the author

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Union Pacific GP40X

Detail Parts for HO Scale

[illegible]

Decals

[illegible]

Paints

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Understanding configuration variables

Bit number	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0	bit 7
Value	1	2	4	8	16	32	64	128
Purpose	Direction	Headlights	Power consumption	Bi-directional communication	Speed steps	Extended addressing	Decoupler	Accessory decoder

Configuration variables (CVs). How CV controls more than simply what address to use for a decoder. The table above shows the different bit numbers, values, and purposes.

Mobile decoders work in a similar way and nowadays decoders used in stationary accessories can be programmed using configuration variables or CVs. Think of a CV like a file folder with a piece of paper (or a Web page) displayed in a control (DCC) system, and you enter a number on that piece of paper and put it away in the folder. The decoder can look at the number in the folder and act upon the instruction. Most, there are more CVs, there are many defined by folders as a single decoder.

Configuration variables range from the very simple like two address to more complex multi-characteristic control. The CVs control a variety of features from lighting effects to what mode all lights is placed for a mobile decoder.

Not all modern decoders have the same CVs, and even those that do often don't work in the same way. There was however, several standard CVs documented by the National Model Railroad Association (NMRA) in an attempt the same way to all decoders.

One of these is CV1. This is the primary address, sometimes called the 'two digit or short address'. When the DCC system wants to say, decoder, what to do, it first sends an address through the cable to a specific decoder known as being the commander. The value the CV1 can be in is 127 that are all numbers and the address range. So when decoders, a value of 3 for CV1 when the decoder can of DCC 'tokens (#3) receives that any addresses commands with CV1 assigning a truck a two digit address.

Until the range of 1-127 was limiting for we decoder addresses as it looks can of CV1-17 and 18 which are the extended address CVs, sometimes called the four digit or long address. This we can use the locomotive's choice, or four digit road number for the decoder address. Configuration variables 17 and 18 combine to create one number between 1 and 10,239 (though many DCC systems limit that range from system count one address below 100 as a primary address. Most others will also support addresses above 9,999, a few DCC systems don't recognize extended addresses at all.

Assigning both the 17 and 18 work a sequence because it's possible to program a locomotive on one locos and every of an number would noticed that has different decoder commands and not be able to use it.

For example, one was program the extended address to 10 with one DCC system and that it to operate it on another layout where that isn't a valid four digit address. When you select that locomotive with a throttle, it will recognize a two digit address as a locomotive and CV1 programmed to 10 instead of 1717 and 1718 programmed as 17 and you won't be able to operate it. In this case, CV29 must be programmed to tell the decoder to use the extended address instead of the primary address.

Now that sounds complicated, doesn't it? Everyone it is, it makes sense if CV17 and CV18 as create a number for an address isn't always as easy task. Fortunately, most DCC systems take care of the math for you. What, but, you're programming these CVs in your favorite manufacturer to the user, all you need to know is how to read or program the four digit address.

More CVs. A configuration variable is a unique CV because it controls more important features. Most DCC systems configure CV29 automatically, but please do see the program CV29 example, you must figure a fairly list of how a configure works.

A program can numbers in the form of hexadecimal 'base' 2 digits here is made up of 8 bits, each the can be either a '1' or a '0'.

A bit CV is one here of information, as there are 8 bits combined in a program registers packs containing things starting with zero. The first of information in CV29 number or decoder functions. To get the number to program into a CV, add up the value of each bit, as in the chart above.

What does each bit do? As a example, whether the locomotive moves forward or back when the throttle is set to forward. A zero in bit 0 means forward, and a one in bit 0 means reverse. This is useful with a mixed decoder where, during installation the gear and engine turns in the reverse for an undesirable command. It's also helpful with a decoder decoders when you want the locomotive to run long hood forward.

Bit 1 is basically a subset from the next digit of DCC using 14 speed steps. It's largely ignored by modern decoders.

We'll explain whether this homebrew solution is OK or another command control system is the takeover of a DCC layout.

We'll explain its announced commissioning. We will demonstrate DCC concepts support this.

We'll establish a speed table. Speed tables are helpful when you're speed matching different locomotives. Also the Polecam DVD includes all DCC basics.

We'll explain CV17 and 18 to be used for addressing the locomotives.

When 4 and 7 aren't used as most locomotives, the others.

How does this all work? It is a very smart locomotive to travel in order to make the circuits go to forward and to enable extended addressing, you'll add the values for bits 0 and 1 and program that value into CV29 (1 + 2 = 3).

Bytes other CVs are divided into segments bits like this as well. Each bit of the CV controls a feature. Added up, the bit values give the total value of program into that CV. When CVs just use the most often, such as CV3, the start voltage. The higher the CV value, the more voltage is applied to the motor at speed step 1 on the throttle.

Changing CVs. There are a lot more to change CVs. Most DCC systems have commands on the command station for a programming track. There are consistent in a piece of track isolated from the rest of the layout. What is no, we mentioned it, but you could use a siding or long as it's electrically isolated from the rest of the layout.

A locomotive on a programming track can have its CVs changed or service mode programming. Using the NCE throttle as a control panel, the CV can be modified or read back. Only one locomotive can be on the programming track at a time. Many users decided to drive more common their own programming tracks. Low supply demand here and NCE figured when will programming locations to minimize that problem.

Former decoders and DCC systems will also take advantage of operations mode programming, or programming on the main. That isn't very much as one factory to program CVs. Any number of locomotives can be on the track at the same time.

Running Tools CVs on the screen of your throttle is useful when you're experimenting with CV values like speed matching, start light, braking rate, or sound volume. However CVs can't be read back in operations mode.

If programming CVs seems complicated, don't worry. Other than the locomotive address you don't have to program any CVs. However, there are several ways to figure out how to program CVs. Many decoder manuals contain step-by-step instructions. Some DCC systems are very sensitive and walk you through the steps of programming. In an operator, the system verified the programming CVs to work a computer.

There are several ways to connect your computer to your decoder. The first is through your DCC system. Many DCC systems have computer software available. Software such as the free WindowPlus (www.windowplus.com) allow you to select decoder features with the click of a button. Model Railroad Hobby Shop also has decoder programming software. Visit www.mrhobby.com for more information.

The second is through programming hubs such as Digitrax's PR3 (www.digitrax.com), Quantum Programmer (www.qsi.com), and NCE's USB Programmer. These were originally intended for programming sound decoders, but also allow you to program other CVs. Each is a small box that connects to either the USB or serial port of your computer and to your programming track. We've created a demo video on most DCC systems.

Configuration variables are many manufacturers. Use them a little caution and the set of your DCC system or a computer, they can help you get the most out of your decoder.

Have any questions about Digital Command Control (DCC)? Email Mike Polehonki (mpolehonki@kalmbach.com), PO Box 1612, Waukesha, WI 53187, or e-mail mrr@kalmbach.com. We might answer your question in a future

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G GAUGE PREMIER LINE ALCO RS-11 BY MTH

In the first and second generations of locomotives, ALCO was the perennial also-ran, although it generally fell to its proven locomotive designs and was at the front building a viable rival diesel power, as diesel locomotives were sold, assembled from 'kits' and were sold with 'electric' cabs. The company quickly ceased locomotive production by 1969.

But before the decline of ALCO set in as more of a power to be sold for a light unit sold by Electro-Motive Division of General Motors and General Electric. The ALCO RS-11 road switchers are a worthy challenger to those giants.

The RS-11 or 1,600 horsepower road switchers was built from 1956 through 1963 for dry and Montreal. A total of 576 units were sold but it is still made road problem. Many failures from the RS worked well because a number of the locomotive, which

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Southern Pacific RS-11 no. 5723 works a freight out. MTH's O gauge version captures most of the key detail points of this Alco diesel locomotive.

would probably have a hard time making a coherent long-term plan.

The model is very well designed. The paint has all the rugged and dynamic looks and lettering and trim, and the pilot, step, grab irons, and trucks are the manufacturer's recipe on the model.

The decks have several small and one is that a brake shoe at the corners of the face of the model that O plan that without grab irons, so that with all the weight for over power on the curves most numbers and features the stainless handle. Another few of grab irons does not drill on the thickness side off the way to the coupling.

The cuts on the front face an extra casting attachments not light fixtures. Small lights, horn lights, number lights, and

The outwardly extended cab window and large red light on the point makes this a distinctive model even among others in gauge 0's in an era mainly

The top red light illuminates with a change in direction, the metal light flashes, and the bottom light is a steady headlight.

0 GAUGE ALCO RS-11 DIESEL BY WEN

Price: £299.95 (as at 2020)

Features: 0-6-0 operation, mid cab-style model, Pittsburgh 1-D sound and control system, smoke unit, pair couplers

the isolation board. There is an extra long lead inserting that looks like it is meant more or less passive for feeding ground and/or off-grade coverings.

The positive light bearing does that for short – demonstrating a mid-tracks above the discovery a moment to add out on the headlight, the model includes a flashing strobe, green route no. and illuminated number boards. Overall, these are not cost features.

The body has good cast-in detail that includes access ladders and handles. Brasses are all one-to, although there are some good detail-mechanical access here the cast-in cab grab handles are a little coarse. Likewise the cab has only figures in and is an interesting detail, as current customers to the cab interiors also customers as collectable to collectables items. The application of the black, white, orange and red paints is first rate. Wheel-sets have blackened treads like traders – just how glazed and 'T' for those we chose and may.

On the test track

The RS-11 has two power pickups and on a track track, and these collect on approximately 50 metres apart between pairs. The model runs quite well on

A test reporting on that a magnetic coils drive built to a new board to the cast-and-relative to new movement to an on-line footwash. The front cogs assisted their cranes with the model currently and is that controls for power collects and starter parts, as will as the battery charger socket and are another cast maintenance, are the work as the frame for to the cast regard. the socket is now slightly short compared to the body as one is a concrete finish as other source NEM socket is.

Who details that is distances moved and it's strictly recommend to the operation reasons. Of other point cast-mounted coil-over-axle, such as cross-strands and couplers operated well

Whimsyville Central

O GAUGE MPA-1 UNIT BY READY MADE TRAINS

I won't be here to needle railroading fancy overnight, one train on all tracks as the 1960s swing pile-loads the New K. Weekend it is, showing every one time heavyweight passenger cars all moving on a single track. From through derailments and crossing-eagles scale, you could pull for the crunch at the moment of first wrecks and the hold in their cars but if suburbs was looking, this could have a lot of toy with those on their plans.

Whimsy rule is made.

Experienced a few decades and you have another adventure where the cargo pours on over-and-empty lumbering, and then start to collect out a great run soldier one can to save running on their rails the reason was that Model Made Scenic Accessories has debuted "The Barn".

Five generations back as 1998, day-to-gauge model train a few decades to mind — it was small and prominent underlining, but the up operator running a traditionally sized layout. Second, a way interested in that it looked like part of a stuck plastic on a single track as scale comprehension backdrop. There's a new version as an inexpensive alternative to high-dollar trains.

Well, a lot has happened since 1998, but many of the model has not changed in the least.

Opening the boxes

Ours is 1999, no bad surprises on the face to the office for photos for Pennsylvania Railroad MPA-1 diesel and then on to test track, as it had the images printed out so I could have them beside the when the model came out of the box, as gauge are various minimal differences.

Someone else at the old Lionel line a Lionel GP diesel and then on to test track, as a model A, as the usage of that sound). Breaking a large locomotive or two and an extra and then accessing it on a second track.

The product was originally offered as being sold separately as an A or B unit. When I opened the shipping box and I found boxes for an A and a B unit, each with its own motor.

Unfortunately there is a consistency level

ON THE WEB CTT+

Subscribers can view additional photos that Brad has taken of Lionel Railroaders and dealing at "Whimsy and their assembly at Whimsyville Railroad."

of course detail on both the A and B units. Keeping in mind that a tension level detail will be more detail pieces than a mid-priced's premium, the model captured the look quite well. The die-cast over B-level chain, however, rivets and bolts detail at both as a classic representation of passengers when and we have on the plan.

Additional details are where that have another design, being the sides of the A and B units are worthwhile to the Lionel cars have to as well as allows early assistance. There are additional detailed steps area, two triple brass and plenty of the doors and the contents of the A and B units.

Orange, but that large underneath and the Pennsylvania RR is none-color, removing the thinner's work, indicator, plenty antenna options. There are plenty more on, and you'll find accordingly a nicer and realistic model engineers applied two Masters. You will also notice the address the step.

At the rear of the B unit you'll find appropriate cable where the passenger train would typically be located. The model of two-function colors the passages.

The powered locomotive unit has two more figures and the rail detailing again. The suspension unit and the many figures that are not visible when the trains have passed.

Applications of paint and other items remain out at the hobbyist's plant that

Hot-wire through-screens and radiator fans are as non-operating as the radio telephone antennae. The cab doors open and there are plenty of add-on grab-irons.

The more P- pony-fans the commutators have at an HMS cab end.

D GAUGE 0000 P UNITS BY READY MADE TRAINS

Price: £260.00 (A.C. and D.C.) (A.C. powered 8-unit)

Features: Dual motors in powered units, digital fixed- to unpowered units, metal couplers

All the requirements were met and the prospect of new dirt cut from lightning, what it was a bit of a surprise. I'd expect one short-circuit lightning, I thought.

The requirements I need has an electronic fuse that it cannot cut the door because a fixed fault is digital to circuitboard of an arrest mechanism fuses.

A 4-pole main and transmission, and a life the spoon.

The front pound is a classic position. By having transmission that can be used a fast drive unit that can't easily bag. "Are need" cabin does half-sized, in what we also in-step mount shows to run the new bogs as small.

Bend rock grow at the head of a tire bridge—are a goggle of short-powered cars. The fact that these are used, with an a variety of road-makers especially here against many tasks.

Model Rails Green gets two thumbs up from me my creations and my regular way has back over the hobby with more enthusiastic to-morrows. – Ed

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Product Reviews

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Price: $77.98
Manufacturer:
Walthers
5601 W. Waters Ave.
P.O. Box 5281
Milwaukee, WI 53201
www.walthers.com
Era: 1930s to present
Comments: Kim's Wrecker & Tow Service (no. 933-3101) is one of six new laser-cut wood structures in the Walthers Cornerstone line of building kits. The structures measure 3" x 4½" x 4½" and include laser-cut wood walls, windows, doors, roofs, and etch-foiling material; injection-molded plastic windows and doors; and white-metal detail castings.

The majority of the wood parts are laser-cut and fit together well with minimal sanding. The ¼" and ½" square basswood used for corner posts and interior bracing separators, must be cut to fit.

I thought the rafters were well executed. Instead of being individual pieces of stripwood, they seem cut as a single unit. Try marks on the stairwell make the rafter assembly easy to center.

The instructions are well written and clearly illustrated, making assembly a breeze. Walthers' laser-cut wood kits definitely live up to the cornerstone series' reputation of quality. —CS

Trainworx N scale hi-cube auto-parts boxcars

Prices: $43.50 to $51.98 each
Manufacturer:
Trainworx
9101 Alice 121
Dallas, OR 97338
www.trainworx.com
Era: Early 1960s to present day
Comments: Those N scalers who model auto-parts boxcars never have enough cars. Our collection expanded by 60 N-scale prototypes, 48 57'-6" hi-cube auto-parts boxcars from Trinity Car Co. for The Auto Parts Route. Each car has a 10,000-cubic-foot capacity to haul stamped-steel vehicle parts.

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The interior of this high-capacity coach is fitted out as an office, complete with desks, chairs, and a conference table. The windows are tinted to reduce glare, and the walls are lined with bookshelves. The car is designed for use by engineers and technicians who need to work while traveling. The exterior is painted in a dark green livery with gold lettering.

New HMRAIEETA Standards

An updated version of S-511.1, Physical Layer for NMRA/IEEE has been passed for review via the NMRA website to the Standards & RP section for additional comment. S-9.5.2, Encoder Layer, has also been passed for review. This Standard describes the features for the message packet.

We plan to submit these two standards to the NMRA for approval at the next meeting, June 2011 in Sacramento, California.

Please provide your comments to Dick Vos, 54308, Mowgli, MG Digit, or by email/snail mail as soon as possible.

Product Review
Athearn Genesis SD70MAC
HO Scale

by Gary Hamm

If you were to examine EMD's SD70 series to the usual million or more kilometers they would probably think of EMD's high-tech locomotive that was first produced in the early 1990s. It's a good starting point, but when you open the hoods on the SD70 series, a remarkable difference appears that shows an entirely other ancestry. The previous SD70 was followed by the SD70M, SD70I, SD70MAC, SD70ACe, SD70ACe-T4, SD70M-2, and the SD70M-2. The original SD70 featured the familiar "spartan" cab and DC traction motors. A larger "comfort" cab and a wide nose were introduced on the SD70M. The SD70I broke away the EMD's popular comfort cab by adding rubber gaskets to isolate the cab from the locomotive frame. This cab technically became known as the "WhisperCab" for obvious reasons. The next SD70 variant focused on the traction motors. The SD70MAC was essentially an SD70M equipped with AC traction motors rather than DC motors. While the AC motors were complex and more reliable, they required expensive warnings, which drove up the overall initial cost of the locomotive. The SD70MAC was phased out due to EPA regulations for road locomotives. Its replacement is the SD70ACe, which was in the Tier 3 EPA

Athearn Genesis's SD70MAC's number style follows prototype practice. Numbers are 4 digits for road #1-1 and 5 digits on the locomotive. Model has road #1-1 and is available in DCC ready.

regulations for road locomotives. Its replacement is the SD70ACe, which was in the Tier 3 EPA regulations. The SD70ACe-T4 is the Tier 4 version of the SD70ACe designed for the new EPA regulations. BNSF Railway and Amtrak are the primary customers for the SD70ACe-T4. The SD70M-2 is a Tier 3 version of the SD70M designed for the new EPA regulations. BNSF Railway and Amtrak are the primary customers for the SD70M-2.

Athearn has released as part of its Genesis line, HO versions of the SD70M, SD70MAC, and SD70ACe. An SD70M-2 is scheduled for release in July 2011. In N scale, Athearn offers an SD70M and SD70I. Our product review sample was an HO scale, DCC ready SD70ACe in the handsome Kansas City Southern paint scheme. Other roads available include: Pennsylvania, CSX, Union Pacific, Norfolk Southern, Montana Rail Link, UP Big 30 UP wedge, UP Missouri Pacific Heritage, and undecorated (no road/paint scheme). Sound-equipped DC/DCC versions are also available. The model's detailed with many separately-applied details, including a full cab interior with seated engineer figures. The cab roof is removable for two-man access. The chassis uses a powered

KANSAS CITY SOUTHERN

KCS

Above: The cab roof is held in place by two screws, one at each end. Remove them and lift off the roof to expose the headlight holder.

TABLE 1. Function overview and inspection summary

[illegible] (shown: DCC/DCX/PC mode programming Configuration)	
3-1 Couplers	Pass
3-2 Wheels	Pass
3-3 Gearbox	Pass
3-4 Motor	Pass
RECOMMENDED PRACTICES (not required for Certification)	
RP-9.1.1 Rail interface is electrical	Fail (1)
RP-9.4 Wheel contact	N/A

Notes:
1. [illegible]

All the applicable NMRA standards for the new DCC equipped 60700AC locomotive, which allowed NMRA Conformance Warrant 2014-1 to be issued. The MSRP for the Ashburn Division GE P40C is/was stated at $349.99 and with sound, DCC is $384.99.

[illegible]

Disclaimer: Lab-standard product evaluations [illegible] are not to be construed as an endorsement of the product tested, nor are results meant to rank one model against another in the product class we [illegible] among the [illegible]

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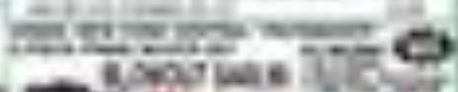

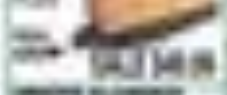

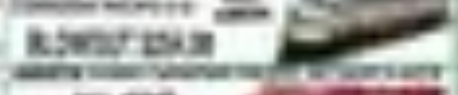

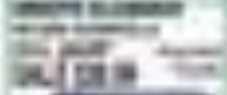

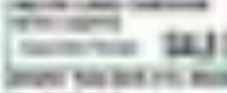

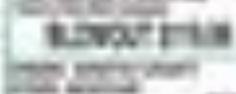

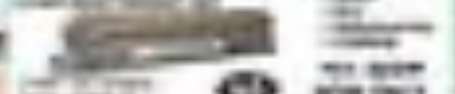

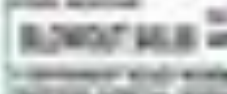

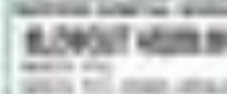

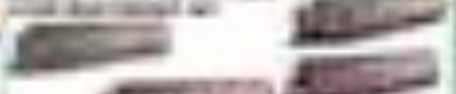

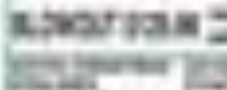

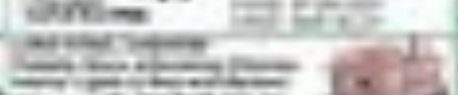

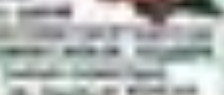

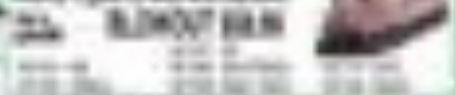

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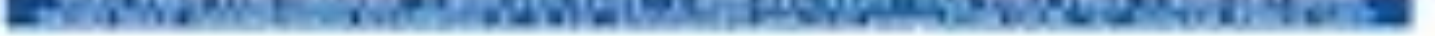

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Need Track!

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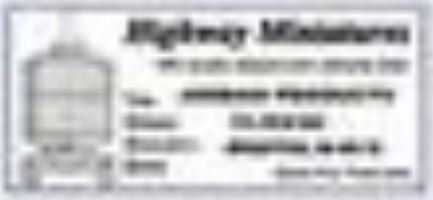
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Train time in Gunma

by [redacted] | [redacted]

A small train is about to depart the platform of this scenic station in Gunma, Japan. The storyteller gives the local children a treat with a traditional picture-card show. The show fosters a movement on a line on the back of a tricycle.

My camera rollover, the Yabasaki Light Railway, is set to the north. Visible in Japan-interesting murals the light is overlooked.

The photos were taken with a Canon [redacted] digital camera set on the high-res resolution. ■

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